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OVERLAPPING OF DERMATOLOGY AND INTERNAL MEDICINE

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It is almost axiomatic in medical practice that internal medicine is the basis of all the specialties. This is true partly because the practice of internal medicine calls for a correlation of subjective symptoms and objective findings referable to all organs of the body, but more especially because internal medicine is based on a point of view concerning, as well as on a limitation of, the type of disorder treated. It starts and ends with pathology as its foundation. No diagnosis is complete without a correlation of the probable etiologic factors and the subsequent disturbances of the normal physiologic and biochemical processes; thus, working from cause to effect, treatment is justified only if it can be clearly shown, experimentally or by carefully controlled clinical observation, that it directly affects the known pathologic changes. The patient is studied as a whole and not as a combination of loosely connected organs. For example, it is an accepted fact that chemotherapy produces results as much by increasing the resistance of the host as by the effect on the invading organism or on the lesion present. Granting these fundamentals, it is obvious that internal medicine is a point of view and not simply a limited specialty, and that in this sense of the word the better internist a man is, the better surgeon, obstetrician or dermatologist he will be.

Dermatology, in common with internal medicine, calls for diagnostic acumen and skill based on keenness of observation and a thorough knowledge of pathology. The skin and its appendages constitute an organ that is an integral part of the body as a whole. It has its supply of motor and sensory nerves and its autonomic nervous system control, even as other parts. It has its vital excretory and secretory functions, and the vascular bed is bathed in the same fluid as the rest of the body. There is consequently almost always a reflection in the skin of disorders in other parts of the body and familiarity with this relationship constitutes a common ground of interest for internist and dermatologist.

Conversely, the internist should know something of dermatology, although he must leave to the dermatologist the final diagnosis in cases in which there is any doubt and, in all events, the treatment of specific

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cutaneous disorders. The necessity for this is obvious when one considers the small amount of time devoted to dermatology by medical schools. At Harvard the time devoted to dermatology and syphilology together has been reduced to twenty-seven hours. In one's internship patients with cutaneous conditions are usually referred to the dermatologic section, which too often is a very much detached clinic. It is therefore obvious that one needs special dermatologic training if one is to attempt to diagnose or treat any except the simplest disorders.

There are obviously certain diseases that would seem to fall within the realms of both specialties. Allergic conditions with cutaneous manifestations in which the dermatitis is, however, only a symptom of internal disorder are examples of this type, as are the purpuras, with the changes in the blood and other systemic pathologic changes. An overlapping of interest in certain conditions among workers in both fields is shown by articles constantly appearing in the dermatologic journals. For example, there is the work on the cutaneous changes in nephritis and uremia, reported by Rosenthal of the Cook County Hospital,[1] and the work of Hedge [2] on the blood findings in psoriasis, with special reference to calcium and phosphorus metabolism and parathyroid dysfunction. Other examples are the studies on hyperkeratosis in myxedema, indicating that the condition may be due to excess mucin, as reported by Reuter of the Mayo Clinic,[3] and the work of Greenbaum of Shamberg's clinic [4] on sugar tolerance in acne.

Syphilis elicits more discord and less cooperation between the two specialties. There seems to be no reason for linking syphilis with dermatology, as is being done in most schools and teaching hospitals. It is obvious that the dermatologist is better able to diagnose the cutaneous lesions of syphilis, but it is also obvious that he is less well trained to evaluate the manifestations of the disease in other organs. The contributions of dermatologists to syphilology, however, justify this connection, regardless of how illogical the connection may originally have been. Furthermore, one cannot be a good syphilologist without being a good internist, and in the treatment of syphilis the dermatologist must step outside the restrictions of his specialty, which cannot but react favorably on his breadth of vision as a dermatologist. Nevertheless, there come to mind cases in which patients have been treated by a

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1. Rosenthal, S. Roy: Uremic Dermatitis, Arch. Dermat. & Syph. **23**:934 (May) 1931.

2. Hedge, Harry M.: The Blood in Psoriasis, Arch. Dermat. & Syph. **24**:204 (Aug.) 1931.

3. Reuter, Maurice J.: Histopathology of the Skin in Myxedema, Arch. Dermat. & Syph. **24**:55 (July) 1931.

4. Greenbaum, Sigmund S.: Tolerance for Dextrose in Acne Vulgaris, Arch. Dermat. & Syph. **23**:1064 (June) 1931.

department of diseases of the skin in which the integrity of the cardiovascular or renal systems has not been duly considered or in which it has been forgotten that with a failing heart or impaired renal function the cardiac disease or nephritis rather than the syphilis must be treated. In the treatment of syphilitic aortitis the physician who is a better dermatologist than syphilologist must sometimes be reminded that the administration of arsphenamine may result fatally because of a consequent edema of the orifices of the coronary vessels that are involved in this disease. In syphilis of the central nervous system it would certainly seem more logical to have the treatment carried out by the neurologist than by the dermatologist. At Johns Hopkins the department of syphilology is independent and has been organized and is conducted by men trained in internal medicine and not in dermatology, and this would seem to be the ideal arrangement where the community is large enough to support this specialty alone. Nevertheless, the treatment of syphilis may well fall within the domain of internist, neurologist or dermatologist, if each of these is shrewd enough to recognize his own limitations and to call for help and advice from other specialists whenever there is any indication for it. This statement may be trite and platitudinous, but a more strict observance of this spirit in the management of all diseases would materially benefit both patient and doctor.

There has been much mutual interest recently in the cutaneous manifestation of glandular dysfunctions. In cases in which the dermatitis is the primary manifestation it is logical for the dermatologist to treat it, but this should presuppose an interest in endocrine research and investigation as a whole. Much of our endocrine therapy is empiric and unsound in theory and in practice. Many endocrine products are probably impotent, and it is generally accepted by endocrinologists that none, except that of the thyroid gland, has proved to be of any value unless given hypodermically. Furthermore, experimental work, as well as carefully controlled clinical observations, indicate that replacement endocrine therapy is usually of little value unless used early in the disease. For example, a pituitary deficiency of long standing will usually become permanent because of the atrophy of the gland, the permanent changes that take place in the sella and the secondary involvement of other glands. Thyroid, which must be prescribed after total thyroidectomy, must be given early if it is to be of any value. These principles must, of course, apply also to the endocrine disorders affecting the skin.

Similarly in allergy one is dealing with a condition new in conception, which affords many pitfalls for the illogical or superficial thinker. Too much attention has perhaps been paid to cutaneous tests and desensitization and not enough to the pathology of the allergic state as a whole, of which dermatitis, indigestion or asthma is only a symptom.

More involved still are disturbances due to changes in the calcium content. The inaccuracy and lack of significance of blood calcium determinations have been complained of, and one is now learning that it is necessary to differentiate between free and combined calcium, and that slight variation in the small free calcium content is usually the disturbing factor. Furthermore, the phosphorus-calcium ratio, regardless of the calcium content of the blood, is of prime importance; more significant still is the conception that the whole disturbance is probably endocrine in origin and is a manifestation of dysparathyroidism. The clinical significance of all this is uncertain, and judgment must be suspended until there is something more than speculation and mere supposition on which to base treatment.

The solution of these problems would seem to call for the combined study of physiologist, biochemist, pathologist, internist and dermatologist. To the dermatologist such a solution offers a further avenue of escape from the old concepts to the new. As pointed out by Wile,[5] dermatology developed as a science apart from the rest of medicine, the classification of dermatoses being based on morphologic characteristics and on their peculiar pathology. Subsequently, however, the skin was recognized as one of the essential organs of the body, subject to its own diseases, but operating under the same physiologic and biochemical laws as other organs, its diseases being intimately connected with the pathologic state of the patient as a whole. Although the dermatologist is not an internist according to the strict definition of the word, his point of view and method of approach are similar to those of the internist, and by his research and investigation he has added much to the field of internal medicine. The fertile fields of endocrinology, allergy and biochemistry offer stimulating opportunities for discoveries based on careful experiment and observation. But in the solution of these problems faith must be tempered with honest doubt, and it would be well to remember the aphorism of Plato that "to know is science; to believe one knows is ignorance."

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5. **Wile, Udo J.**: Cutaneous Manifestation of Systemic Diseases, Ann. Int. Med. **5**:1103 (March) 1932.

MICROSCOPIC SLIDE PRECIPITATION TEST FOR DIAGNOSIS OF SYPHILIS WITH CHANCRE FLUID

INCLUDING A COMPARISON OF THE KLINE, WASSERMANN, KAHN AND HINTON BLOOD SERUM TESTS IN ONE HUNDRED AND TEN PATIENTS WITH SUSPECTED SYPHILITIC SORES

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In the present status of our knowledge it is fair to state that the successful cure of syphilis in the largest percentage of cases is a matter chiefly of very early diagnosis. The ideal period for successful therapy is up to the fifth or sixth week after the infection. During this period, the serologic tests of the blood are as a rule negative. The diagnosis at this time therefore devolves on finding the spirochetes in the lesions or glands. For a variety of reasons, however, this often fails. This may be due to the fact that the lesions are too old or have been contaminated or treated with some chemical prior to the examination. All these factors tend to vitiate the results. Moreover, Spirochaeta pallida, while readily recognized by the experienced, is likely to be missed or mistaken by the inexperienced. This difficulty has been recognized by many. Stokes [1] expressed it well when he stated that a rapid specific microchemical stain is much to be desired; but at present we have none.

As has already been stated, neither the Wassermann nor the Kahn, nor for that matter any other of the tests now in use that are performed with blood serum, come to the aid of the physician sufficiently early in the diagnosis of the disease. When these tests become positive in the blood, the disease has already entered the serologic secondary stage. At this time the percentage of patients that are cured, even with the most intensive types of treatment, is materially below that for the seronegative period. It was thought that perhaps serologic tests performed on fluid obtained from local sores would be positive earlier than those done with blood and thus prove a valuable aid in the very

From the Venereal Disease Service of the Department of Health, City of New York.

1. Stokes, J. H.: The Syphilology of Today and Tomorrow, Arch. Dermat. & Syph. **22**:201 (Aug.) 1930.

early diagnosis of syphilis. This has been attempted by a few workers with the Wassermann and Kahn technics, but the reports are inconclusive, especially because of the small series of cases. Klauder and Kolmer [2] stated that a positive Wassermann reaction with chancre fluid is obtainable before the positive reaction appears in the blood. A similar statement is made by Bergel.[3] It is evidently possible to obtain a positive test with local fluid by the Wassermann technic, but there are objections. In the first place, it offers technical difficulties; it is not easy to obtain the required amount of serum from local sores in the majority of cases. Secondly, the reports show that anticomplementary results occur quite frequently with the local Wassermann tests.

Elliott and Todd [4] have obtained positive reactions with the micro-Kahn tests with chancre fluids before the positive reaction appeared in the blood. It is, however, felt that because of the use of raw fluids their technic gives a large percentage of nonspecific reactions and cannot be recommended.

The microscopic slide precipitation test, because of its specificity, increased sensitiveness and simplicity, seemed to be ideal for experimentation with fluids from sores. Purely as a speculation it was hoped that the test performed with this technic would be found to be positive earlier than the blood test and thus prove to be the early diagnostic aid so much desired.

In this study 110 consecutive patients with sores were employed. Ninety-eight per cent of the lesions were on the genitalia, and nearly all the patients were males. Complete data were kept in each instance with respect to period of exposure, result of dark-field examination, duration of sore, medicaments employed prior to examination, history of a former infection and results of comparative local fluid slide tests and of Kline, Wassermann, Kahn and Hinton tests of the blood serum.

The technic employed in obtaining and in the preliminary handling of the fluid from the sores, including the detailed method of performing the slide test, is that described by Kline, Littman and Van Cleve.[5]

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2. Klauder, J. V., and Kolmer, J. A.: The Wassermann Test Performed with Chancre as an Aid to the Early Diagnosis of Syphilis, Arch. Dermat. & Syph. **5**:566 (May) 1922; Wassermann Test with Secretions, Transudates and Exudates in Syphilis, with a Note on the Origin of the Complement Fixing Antibody, J. A. M. A. **76**:1635 (June 11) 1921.

3. Bergel, S.: Allgemeine Biologie und Therapie der Syphilis, Jena, Gustav Fischer, 1931.

4. Elliott, J. A., and Todd, L. C.: The Value of the Kahn Precipitation Test in the Diagnosis of Primary Syphilis and Its Adaptation to Local Fluids, Arch. Dermat. & Syph. **9**:208 (Feb.) 1924.

5. Kline, B. S.; Littman, S., and Van Cleve, J. V.: Microscopic Slide Precipitation Tests for the Diagnosis and Exclusion of Syphilis with Sore Fluids, J. Lab. & Clin. Med., to be published.

ANALYSIS OF RESULTS

There were 110 suspected sores examined, 74 of which were ultimately proved to be syphilitic either by dark-field or by serologic examination. Of the 110 cases, 49 gave positive results on dark-field examination. In these the local slide tests proved positive in 28 cases (57.14 per cent) and the Kline blood serum tests positive in 32 cases (65.30 per cent), while the Wassermann tests were positive in only 19 cases (38.77 per cent). This demonstrated that the Kline test of the blood serum became positive earlier than the Wassermann test, as previously reported by one of us (Dr. Chargin [6]), and that it was more sensitive by 8.16 per cent than the local slide test in this group of cases (see table).

Results of Tests in Seventy-Four Cases of Syphilis

Results of Dark-Field Examination	Reaction	Kline Local Slide Test		Kline Test (Arm)		Wassermann Test		Kahn Test		Hinton Test	
		No. Tests	Per Cent	No. Tests	Per Cent	No. Tests	Per Cent	No. Tests	Per Cent	No. Tests	Per Cent
Positive	Negative.....	13	26.53	13	26.53	28	57.14	26	55.13	26	66.66
	Doubtful.....	8	16.32	4	8.16	2	4.08	6	12.76	2	5.12
	Weak positive....	5	10.20	7	14.28	2	4.08	3	6.38	4	10.25
	Strong positive...	23	46.93	25	51.02	17	34.69	12	25.53	7	17.94
	Total positive....	28	57.14	32	65.30	19	38.77	15	31.81	11	28.20
	Total no. cases...	49		49		49		47		39	
Negative	Negative.....	1	4.00	2	8.00	9	36.00	7	28.00	4	18.18
	Doubtful.....	2	8.00	0	0.00	0	0.00	2	8.00	2	9.09
	Weak positive....	5	20.00	6	24.00	4	16.00	3	12.00	3	13.63
	Strong positive...	17	68.00	17	68.00	12	48.00	13	52.00	13	59.09
	Total positive....	22	88.00	23	92.00	16	64.00	16	64.00	16	72.72
	Total no. cases...	25		25		25		25		22	

In the group showing negative results on dark-field examination, there were 61 cases, 25 of which were subsequently proved to be syphilitic either by serology or by subsequent course. In these cases the local slide test was positive in 22 (88.00 per cent) and the Kline test of the blood serum was positive in 23 (92.00 per cent), while the Wassermann test proved positive in only 16 (64.00 per cent). Thus the Kline test of the blood serum was somewhat more sensitive than the local slide test and considerably more sensitive than the Wassermann test.

Of the 36 nonsyphilitic cases, the Kline test of the blood serum was negative in 33 and doubtful in 3. The local slide test proved negative in 29 and doubtful in 7, while the Wassermann test was negative in all 36. In this group, therefore, the Wassermann test made a slightly better showing than in either of the foregoing groups. There were 7 doubtful

6. Chargin, L.; Rosenthal, T., and Koopman, J.: A Comparison of the Wassermann and Kline Tests in Primary Syphilis, Am. J. Syph. **15**:405 (July) 1931.

reactions with the local slide tests in syphilitic patients who gave negative results in tests of the blood serum. There was an equal number, proportionately, of doubtful local reactions in cases that were definitely nonsyphilitic. It appears likely that doubtful reactions in local fluids are due to local contamination with bacteria, débris or medicaments, which tends to produce slight clumping similar to varying degrees of true positive reactions. It seems fair to state that they are of no significance from a diagnostic standpoint.

In 11 cases giving positive results on dark-field examination and negative local slide tests, it was found that the Kline and Wassermann tests of the blood serum were likewise negative. In all these cases the duration of the lesion was comparatively short, varying from two to eight days, and in only one instance, twenty days. This can be interpreted to mean that sufficient time had not elapsed for any type of reaction to become positive. In no instance was the Wassermann test positive and the local slide test negative.

There were 20 cases of syphilis in which the results of dark-field examination were negative but the local slide test positive. In these 20 cases the Kline blood serum test gave 19 positive reactions and 1 negative one. This demonstrated that occasionally one may obtain a positive reaction with the fluid from the sore while blood from the arm still gives a negative reaction. In cases in which this occurred, the local slide test in the same group of cases gave 16 positive and 4 negative reactions, again demonstrating the increased sensitiveness of the Kline test during the chancre period.

There were 30 cases giving negative results on dark-field examination in which there was a general agreement in the local slide test and the Kline and Wassermann tests of the blood serum; they all proved negative for syphilis.

The exclusion test was performed in three fourths of the cases and was found to be even more sensitive than the diagnostic test. On theoretical grounds this was to be expected. At the same time, however, one should not lose sight of the fact that it may be less specific because the exclusion test occasionally gives doubtful reactions in nonsyphilitic patients. Accordingly, if doubtful reactions are disregarded, the exclusion test, because of its increased sensitiveness, may play an important rôle in detecting the infection earlier than any of the other serologic tests. This, however, must be evaluated by further study.

Although characteristic positive reactions were obtained with fluids from sores in which there was a minimum amount of blood, the strongest reactions were observed in those fluids in which a considerable amount of blood was present. This would indicate that the positive reaction obtained with local fluid is most likely due to the "reagin" in

the circulating blood. A test of local fluid may therefore in reality be a test of the blood.

It should be noted that Klauder and Kolmer exclude the hematogenous origin of the complement-fixing antibody and are of the opinion that local formation of these substances is responsible for the positive reactions. Hence they believe that the presence of blood does not influence the local reaction. Elliott and Todd obtained 93.1 per cent positive reactions with fluids from raw sores by means of the micro-Kahn test, while with inactivated fluids, only 36.7 per cent proved positive. In accordance with the technic of Kahn [7] no inactivation is required, but the more recent experience of Kline has demonstrated the need for inactivation if accurate results are to be obtained.

Because of the large number of spirochetes in chancres, one might expect a correspondingly large amount of local reacting substances. If these substances are present, one should expect a larger percentage of positive local tests as compared with the blood tests. However, this does not hold true since the results show that blood tests are somewhat more sensitive than the local tests. This is a further argument in favor of the view that the local fluid reaction is evidently a blood reaction.

SUMMARY AND CONCLUSION

1. Believing that a test of chancre fluid might make a diagnosis of syphilis possible before the blood gave a positive reaction, we undertook Kline tests on 110 suspected sores. The results obtained indicated that tests performed on fluid obtained from local sores (chancres) are apparently less sensitive than tests performed simultaneously on blood serum.

2. So far as tests performed with blood are concerned, the results in this study justify the statement that the Kline test is more sensitive and becomes positive earlier than the Wassermann test.

Dr. Wishengrad assisted in the work and Mr. John Koopman cooperated in the performance of the Wassermann tests reported in this study.

7. Kahn, R. L.: Serum Diagnosis of Syphilis by Precipitation, Baltimore, Williams & Wilkins Company, 1925.

BLOOD SUGAR FINDINGS IN THE MORE COMMON DISEASES OF THE SKIN

REPORT OF SIX HUNDRED CASES

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There has long been a feeling among dermatologists that there is a definite relationship between carbohydrate metabolism and certain dermatoses. Particularly has it been believed that such a relation exists in acne vulgaris, in eczema and in furunculosis. To study this point various investigations have been made from time to time and the results published, but these reports have suffered from one rather common fault—conclusions have been drawn from an insufficient number of cases.

In 1928 I first reported the results of my study of the blood sugar level in a series of patients with common cutaneous disorders.[1] This series was made up of 205 different patients, and the conclusion was drawn that "it is safe to assume from the observations in acne vulgaris, seborrhea, furunculosis and psoriasis that hyperglycemia is not of great significance as an etiologic factor."

Since I believed that that series of cases in which 11 different dermatoses were represented was too small for definite conclusions to be drawn, the investigation was continued, and 400 additional patients were studied in whom 411 individual dermatologic diagnoses were made.

REVIEW OF THE LITERATURE

Since my first paper appeared in 1928 a number of other papers have been written dealing with the relation of carbohydrate metabolism to cutaneous disorders. The results are conflicting, and there continues to be a difference in opinion as to the rôle played by carbohydrates as represented by the blood sugar level.

Devoto,[2] for instance, in a study of 400 cases, using the micromethod of Bang, after a twelve hour fast, found hypoglycemia in 4.5 per cent of his cases and hyperglycemia in 17.25 per cent. Even when known cases of diabetes were eliminated from his summary, there were 16.75 per cent of the cases in which the blood sugar was

1. Fisher, J. Edgar: Blood Sugar Level in Some Common Skin Disorders, Arch. Dermat. & Syph. **18**:732 (Nov.) 1928.

2. Devoto, A.: Gior. ital. di dermat. e sif. **70**:1439 (Dec.) 1929.

above normal. He found that 20.5 per cent of his cases of psoriasis showed hyperglycemia, as well as 16 per cent of those of eczema, 22 per cent of those of eczema seborrheicum, 28 per cent of those of impetigo, 41 per cent of those of furunculosis and 50 per cent of those of pruritus. Hyperglycemia was also found in cases of other conditions (table 3), but the number studied was less. It should, however, be noted that he found no instance of hyperglycemia in 16 cases of acne vulgaris.

Rost,[3] using a modification of Bang's method on fasting subjects, and considering the normal blood sugar value from 95 to 105 mg. per hundred cubic centimeters found an increase above the normal in eczema, dermatitis toxica, pyoderma, acne and seborrheic eczema. He expressed the belief that insulin may be of benefit in some stubborn cases of cutaneous disease and reported that he had seen cases of abscess of the skin and limbs (ulcus cruris) with hyperglycemia in which the condition did not respond to local measures but healed with this drug. The great majority of patients, however, show no hyperglycemia and do not respond to insulin. He says that it is natural to believe that in cases in which there is a normal amount of blood sugar there is, nevertheless, a relation between cutaneous disease and blood sugar.

Somerford[4] made dextrose tolerance tests in 120 cases. He considered 120 mg. per hundred cubic centimeters the highest normal fasting value and 170 mg. the maximal reading. Only 28 patients (23.3 per cent) gave normal readings, but the deviation in many of the remaining 92 was slight. Instead of supplying a table of his results, he gave averages in the form of curves. He found a slight increase in the groups studied, more pronounced in the cases of lichen and pruritus. He expressed the belief that in eczema and pruritus there is a direct relationship to the occurrence of hyperglycemia. Fifty-eight of 67 patients who complained of itching showed intolerance for sugar. During two years no evidence of true diabetes or even of glycosuria was noted in these cases. This, according to Somerford, apparently rules out the belief of others that pruritus is a symptom of potential diabetes.

Benet and Nepveux,[5] using a modification of Bang's method, and considering from 80 to 100 mg. (or 120 mg.) per hundred cubic centimeters as normal, studied 21 patients with furunculosis, most of whom showed hepatic dysfunction. Fifteen patients had a blood sugar content between 115 and 214 mg., and all but 4 had a level above 125 mg. Curiously, 12 of these patients had parents or other relatives who were diabetic. The authors believed that beyond doubt furunculosis is due to a hepatic functional anomaly, particularly to a carbohydrate metabolic

3. Rost, G. A.: Arch. di farmacol. sper. **48**:59, 1930.

4. Somerford, A. R.: Lancet **2**:1140 (Nov. 30) 1929.

5. Benet, M., and Nepveux, F.: Progrès méd. **44**:584 (April 6) 1929.

disturbance. However, they considered the term prediabetic not justified, and suggested "para-diabetic" as better, as it is noncommittal in regard to the ultimate result.

Usher [6] compared the sugar tolerance of patients with eczema with that in a noneczematous group and found that the "curves were altered in 54.7 per cent of the former group as compared with 38 per cent of the latter. In both groups, the incidence of diminished tolerance for sugar was the same. In those with eczema however, the incidence of delayed assimilation was much greater than in non-eczematous persons, namely 40.5 per cent as compared with 20 per cent." He gave the following explanation: "It has been shown that human sweat is an excellent culture medium for bacteria. It has further been shown that bacterial growth in sweat varies directly with its sugar content. It is believed possible that, in at least some persons with a disturbed carbohydrate metabolism, pathogenic organisms normally present on the skin surface become activated and exert harmful effects."

Rudy [7] expressed the belief that in many instances a disturbance of the carbohydrate metabolism may be the basis for disorders of the skin. He remarked: "When hyperglycemia is found in cases of infection or intoxication, which are accompanied by skin manifestations, it is difficult to determine which one of these conditions is responsible for the hyperglycemia." He reported a case of diabetes in which urticaria developed and there was temporary resistance to insulin.

Narducci,[8] using the Folin-Wu method, both during fasting and from two to three hours after a test meal, found hyperglycemia in 18 of 39 cases of eczema and in 8 of 11 cases of psoriasis. In 47 cases of furunculosis there were only 3 cases of hyperglycemia. He believed insulin to be of value, especially in eczema, in which there is hyperglycemia.

Fugino [9] studied 87 dermatologic cases, using Hagedorn-Jensen's micromethod of blood sugar analysis. He determined the blood sugar during fasting and two hours after a test meal. He found a definite increase in 37 per cent of the cases. From his results he conjectured that in different cutaneous diseases there is a hidden carbohydrate metabolic disturbance which appears during their course, and that sugar intolerance, a pathologic hyperglycemia, can be called forth. His studies included 21 cases of vitiligo vulgaris, 11 of acne vulgaris, 10 of sycosis vulgaris, 8 of alopecia areata, 5 of urticaria, 5 each of sycosis lupoide,

6. Usher, B.: The Relation of Carbohydrate Metabolism to Eczema, Arch. Dermat. & Syph. **18**:423 (Sept.) 1928.

7. Rudy, A.: New England J. Med. **204**:791 (April 16) 1931.

8. Narducci, F.: Gior. ital. di dermat. e sif. **70**:857 (Aug.) 1929.

9. Fugino, S.: Acta dermat. **16**:567, 1930.

parapsoriasis and keratodermia tylodes palmaris progressiva Dohi, 4 of chronic eczema, 3 of psoriasis and 1 each of a number of other dermatoses.

Pillsbury [10] reviewed the recent studies of the metabolism of the skin, especially in relation to the production of lactic acid. He wrote: "It can be shown that pure lactic acid solution, when injected into the skin of a normal individual in a concentration only slightly above that normally present in the skin, will produce definite erythema and some pruritus about the site of injection . . . and the effect increases with the lactic acid concentration of the injected solution. This effect is probably due to the H ion, but it suggests a possible effect of lactic acid metabolically produced, if insufficiently buffered." He stated that the possibility of the production of erythema of the skin by lactic acid is obvious, and went on to say: "It is probable that in normal living skin the lactic acid formed above a certain level rapidly disappears. It can be stated that it does not rise appreciably, even on injection of a large amount of dextrose into the blood stream. The question as to whether any appreciable rise may occur in abnormal skin and whether a high lactic acid content is productive of any gross physiologic change cannot be answered at present. . . . The preliminary experiments indicated that a specific carbohydrate metabolism of the skin may be observed experimentally." He expressed the belief that the skin is an organ of more than incidental importance in the carbohydrate metabolism of the body.

There are, however, a great many other authors who hold that there is no definite evidence of a disturbance of carbohydrate metabolism in the various diseases of the skin, at least no disturbance that may be detected by determinations of blood sugar. For instance, John,[11] making sugar tolerance tests in a small number of dermatologic cases, found that among 20 patients only 10 per cent could be classed as having the diabetic type of curve. He considered his results a contrast to those in some of the reports in the literature.

Mannino,[12] who also used a dextrose tolerance test for his investigation, found in 52 patients with dermatologic conditions no appreciable alteration in glycemia function, and when such an alteration did exist with a dermatosis it seemed to be independent.

Hudelo [13] also reached the conclusion that at the present time it is impossible to conclude that the etiology of various dermatoses is hyperglycemia.

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10. Pillsbury, D. M.: Intrinsic Carbohydrate Metabolism of the Skin, J. A. M. A. **96**:426 (Feb. 7) 1931.

11. John, H. J.: M. J. & Rec. **131**:287 (March 19); 351 (April 2); 398 (April 16) 1930.

12. Mannino, L.: Gior. ital. di dermat. e sif. **69**:1603 (Dec.) 1928.

13. Hudelo, L.: Presse therm. et climat. **70**:11 (Jan. 1) 1929.

TABLE 1.—*Blood Sugar Values in 400 Different Patients, Representing 411 Different Diagnoses and 37 Different Dermatologic Conditions*

Disease	Total	Blood Sugar Values, Mg. 70-90	91-120	121-150	Above 150
Acne vulgaris	104	36	67	1	..
Eczema	62	17	42	2	1
Pruritus, general	38	14	20	2	2
Pruritus, genital	14	6	5	1	2
Pruritus ani	12	3	7	1	1
Seborrhea	33	9	18	4	2
Furunculosis	21	5	16	..	..
Urticaria	19	5	14	..	..
Psoriasis	22	4	18	1	..
Sycosis	9	2	7	1	..
Dermatitis	10	4	3	3	..
Acne rosacea	9	5	3	1	..
Pityriasis rosea	6	1	4	..	..
Tinea	5	3	2	..	..
Lichen planus	4	1	2	..	..
Verruca	4	2	2	..	..
Herpes	3	1	2	..	..
Lupus erythematosus	3	..	3	..	..
Parapsoriasis	3	..	3	..	..
Hydroa vacciniforme	2	1	..	1	..
Alopecia areata	2	1	1	..	..
Erythema	2	1	1	..	..
Dermatographia	2	1	1	..	..
Epithelioma	2	..	2	..	..
Ichthyosis	2	2	..	..	..
Keratosis palmar et plantaris	2	..	2	..	..
Sarcoid	2	1	1	..	..
Intertrigo	2	..	2	..	..
Drug eruptions	2	..	2	1	..
Diabetes with cutaneous lesion	1	..	..	..	1
Neurotic excoriation	1	..	1	..	..
Ulcer of leg	1	..	1	..	..
Mycosis fungoides	1	..	1	..	..
Pediculosis	1	..	1	..	..
Polycythemia vera	1	1	..	..	..
Leukoplakia	1	1	..	..	..
Pemphigus	1	1	..	..	..
Syphilis	1	..	1	..	..
Scabies	1	..	1	..	..

TABLE 2.—*Results of Blood Sugar Determinations in Common Cutaneous Diseases as Seen in Over 600 Patients* *

Disease	Total Cases	Blood Sugar Values, Mg. 17-120	121-150	Above 150
Acne vulgaris	174	170	3	1
Eczema	101	95	5	1
Pruritus, general	48	42	4	2
Pruritus, genital	20	16	1	3
Pruritus ani	21	19	1	1
Seborrhea	33	27	4	2
Furunculosis	44	42	2	
Urticaria	36	36		
Psoriasis	35	34	1	
Acne rosacea	14	12	2	

* The results previously reported by the author are added to those reported for the first time in this paper.

Schamberg and Brown [14] studied 875 dermatologic cases, especially in relation to the nitrogen metabolism, but in the majority of their cases the blood sugar was also determined. The examination was made by the Folin-Wu method, from one to four hours after breakfast. In table 3 will be found a detailed account of these cases. Although they found many instances in which the nitrogenous constituents of the blood were distinctly increased, in regard to the carbohydrate metabolism

TABLE 3.—*Relation of Blood Sugar Increase to Various Dermatologic Conditions as Reported by Various Authors* *

	Barbaglia[21]	Biberstein and Linke[16]	Devoto[3]	Matsumoto[15]	Muller[17]	Narducci[8]	Neumark and Tschatschowske †	Rost[3]	Schamberg and Brown[14]	Fisher
Acne vulgaris	..	..	16 0	3 0	4 20%	..	..	9 22%	10 0	174 2%
Acne rosacea	..	..	13 8%	4 0	..	..	..	..	20 15%	14 14%
Eczema	..	38 5%	122 19%	16 0	12 0	39 46%	27 4%	62 10%	432 9%	101 6%
Dermatitis	..	..	..	..	34 0	..	..	72 20%	14 7%	10 30%
Furunculosis	..	..	31 42%	..	8 0	47 6%	..	88 14%	5 0	44 4%
Psoriasis	6 0	31 3%	39 20%	4 0	23 17%	11 8%	32 10%	67 23%	51 14%	25 2%
Pruritus, general	..	..	..	..	3 0	..	..	..	37 5%	48 12%
Pruritus, other types	..	..	14 50%	..	..	..	..	3 67%	100 8%	41 15%
Seborrhea	..	..	9 22%	..	9 0	..	7 28%	9 44%	14 7%	33 18%
Sycosis	..	..	7 29%	..	..	..	..	..	..	9 10%
Urticaria	..	..	..	3 0	4 0	..	5 40%	6 17%	25 0	36 0
Pityriasis rosea	..	..	16 6%	..	..	..	..	..	..	6 0

* The first figures in each column represent the number of cases in which blood sugar determinations were done, and the second figures, the percentage of these cases in which the blood sugar was found to be above normal (even figures that are only slightly above normal are included in these percentages).

† Neumark and Tschatschowske: Dermat. Wchnschr. **86**: 453, 1928.

they wrote: "We have been impressed with the comparatively small part which hyperglycemia plays in the production of cutaneous diseases . . . The number of instances in which eczema was caused by a pathologic increase of dextrose in the blood was small." It might be mentioned that 445 of the 875 cases were cases of eczema, and that only 38 of these 445 showed hyperglycemia.

14. Schamberg, J. F., and Brown, H.: The Chemistry of the Blood in Diseases of the Skin, Arch. Dermat. & Syph. **21**:1 (Jan.) 1930.

Matsumoto,[15] whose cases are also summarized in table 3, determined the blood sugar in fasting patients by the micromethod of Hagedorn-Jensen. He considered from 75 to 105 mg. per hundred cubic centimeters as normal and from 106 to 120 mg. as relatively high. He studied 133 cases of dermatoses without glycosuria. In practically all of these cases, in which 41 dermatoses were represented, the blood sugar was normal. The exceptions were 4 cases of rosacea, 1 of sycosis, 5 of herpes and 1 of erythema induratum Bazin which showed a slight but not an actual pathologic increase.

Biberstein and Linke[16] used the method of Hagedorn-Jensen for their determinations and considered from 70 to 110 mg. as normal and from 110 to 120 mg. as a slight but not a pathologic increase. The result of their studies was the conclusion that there is no pathologic increase in blood sugar if glycosuria is not present.

Muller,[17] whose earlier studies were reported among Rost's [3] results, reported in a later paper 179 cases covering 20 different dermatoses. In only 8 cases (of 4 dermatoses) was the blood sugar above 130 mg.

It is this conflict of opinion that has prompted the extension of my previous investigation. It is felt that the 411 additional diagnoses, together with the 205 previously reported, may throw some light on this troublesome and disputed point.

METHOD OF DETERMINING BLOOD SUGAR

In the discussion on the relation of blood sugar to dermatologic conditions a word as to the method used and the values considered normal is not amiss, although it is not my intention to delve deeply into the comparison of various methods of blood sugar analysis. When the investigation was first started in 1920 the Lewis-Benedict method was used, and it was noted that the tests gave consistently high readings. With the introduction of the Folin-Wu method into clinical practice it was discovered that whereas hyperglycemia had ordinarily been present in dermatologic conditions, the readings were now normal in 90 per cent of the cases. It should be mentioned that the same technician made the tests by both methods, and that her work in the laboratory covered eight years. The present technician has been making the tests for three years. The personal factor may, therefore, be eliminated. The results continue to be consistently within normal limits. It may be significant that in the work reported in 1916 by Highman, Schwartz and Mahnken[18] in which high sugar values were found in various dermatologic conditions the Lewis-Benedict method was used.

15. Matsumoto, Y.: Jap. J. Dermat. & Urol. **30**:107 (Oct.) 1930.
16. Biberstein, H., and Linke, H.: Arch. f. Dermat. u. Syph. **158**:199, 1929.
17. Muller, A.: Arch. f. Dermat. u. Syph. **157**:639, 1929.
18. Highman, Schwartz and Mahnken: J. Cutan. Dis. **34**:159 (March) 1916.

Pickard and Pierce,[19] in a recent check on the Folin-Wu and the Benedict methods of determination of blood sugar, found the former to be more reliable, the errors occurring chiefly in the upper ranges (the figures around 200 mg. being 6 per cent too high). Myers, in the discussion of this paper, concurred and said that the Benedict modification of the Lewis-Benedict method probably gives higher results than the Folin-Wu method.

The importance of the method used for the determination of the blood sugar is put forward without prejudice. In the various studies reported here a variety of methods have been used, especially among European investigators, who employ methods different from those used in America. They seem to rely largely on micromethods in which the percentage of error is much larger than when larger quantities of blood are used. The method used for the determinations herein reported is the same as that of the earlier report,[1] namely, the Folin-Wu method, with blood obtained by venipuncture.

In this study from 80 to 120 mg. per hundred cubic centimeters of blood is considered normal. It is true that some authors consider 110 mg. as the upper normal limit, but with that opinion I do not agree. All determinations were made on fasting patients, the last meal having been taken the night before the determination was made.

RESULTS

Table 1 presents my results in the study of the blood sugar in 411 specimens of blood in various dermatologic conditions occurring in 400 different patients. It will be noted that 37 different dermatoses are included; of this number only 12 are represented by 9 or more patients. While it is felt that in the other dermatoses the numbers of cases are too few for conclusions to be drawn, these dermatoses have been listed for the benefit of any future investigators to whom even a small number of cases may be of value.

It will be noted from table 1 that hyperglycemia is practically nonexistent. Thus in 104 cases of acne vulgaris, only 1 case showed a blood sugar above 120 mg., and that value was below 150 mg. In 62 cases of eczema there were 3 in which the blood sugar was above 120 mg. Indeed, in the entire 410 specimens (representing that number of diagnoses) reported on (the case of diabetes with cutaneous lesions being again excluded) only 8, or less than 2 per cent, showed a blood sugar value above 150 mg., and only 19, or 4 per cent, showed a value between 121 and 150 mg. It is felt that these figures definitely rule out the possibility of any relationship between the dermatoses and the

19. Pickard, R. J., and Pierce, L. F.: Blood Dextrose Determinations: Statistical Comparison of Folin-Wu Method and Benedict Modification of Lewis-Benedict Method, J. A. M. A. **94**:480 (Feb. 15) 1930.

carbohydrate metabolism, as shown by the blood sugar value; certainly this is true in those conditions of which a large number of cases were studied, as in acne vulgaris, eczema and pruritus. In seborrhea, furunculosis, urticaria, psoriasis, sycosis, dermatitis and rosacea, of which the number of cases studied is fewer, a less dogmatic statement is in order. It may be said, however, that from this investigation there is no evidence to warrant the belief that there is any connection between these diseases and the carbohydrate metabolism. These conclusions support the evidence obtained in the smaller group of cases reported in 1928.

The results of this investigation and of that made in 1928 have been combined in table 2, in which are given the results of the two studies, as concerns the 10 most frequent dermatologic conditions seen in my practice. It will be noted that in none of these conditions was definite hyperglycemia found in a sufficient number of the cases to be of any practical or theoretical importance. In 174 cases of acne vulgaris and 101 cases of eczema, for instance, there was only 1 case of each condition in which the blood sugar value was above 150 mg. Of the total of 526 cases, only 33 showed a blood sugar value above 120 mg., and only 10, or 1.9 per cent, showed definite hyperglycemia (a value above 150 mg.), and one of these 10 was a case of diabetes with genital pruritus.

It was thought interesting and valuable to compile in a separate table the results of other investigators, comparing them with each other and with my results, in the more common dermatologic conditions. This has been done in table 3. The range of methods used and the consequent difference in opinion as to what constitutes normal were taken into consideration in the compilation of this table.

Cases of hyperglycemia have been listed, not according to any fixed standard but according to the investigator's opinion as to what constitutes hyperglycemia according to the method that he used. Thus Rose,[3] using a modification of Bang's method, considered from 95 to 105 mg. as normal, while Fisher,[1] using the Folin-Wu method, considered 120 mg. as the upper normal limit. This is, in fact, the only practical way of treating the problem, for in reporting their results, investigators, naturally enough, divide their cases according to their own ideas of what constitutes slight and definite hyperglycemia. Rost, considering 110 mg. as the upper normal limit, classed his cases as those in which the values fell within from 111 to 130 mg. and those in which they were above 130 mg. It is obviously impossible to classify these cases in other divisions. The total numbers of cases showing hyperglycemia, however moderate, have therefore been computed as percentages of the total numbers of the particular dermatoses seen, the results being given in the second set of figures in the columns, the first set representing the

total numbers of cases of the dermatoses seen. In interpretation of this table it must be pointed out that instances of relatively moderate hyperglycemia with values, for instance, of above 150 mg., are relatively few. These percentages, therefore, over-represent rather than under-represent the cases.

It will be noted that in no dermatosis is there any conclusive evidence of hyperglycemia. In acne vulgaris, one of the conditions in which carbohydrate metabolism has long been considered a factor, the results of investigations do not confirm the belief. It is true that Rost and Muller both reported about 20 per cent of these cases as showing hyperglycemia, but the total of the cases reported is only 13, nor is 20 per cent in itself a really conclusive percentage.

Greenbaum,[20] who made a special study of acne vulgaris by means of a dextrose tolerance test, wrote: "If there is any connection between the intake of sugar and pustular acne or if intolerance for sugar is part of an endocrine imbalance generally believed to be present in acne, this test does not appear to be of help in detecting it." Somerford [4] found no marked abnormality in the carbohydrate metabolism in acne.

Barbaglia [21] made a special study of 6 cases of psoriasis using Shaeffer and Hartmann's method (and considering the normal value as from 70 to 110 mg). He found all of the blood sugar values to be normal, a conclusion with which many other investigators, working on large numbers of cases, will agree, as may be seen by a glance at the chart.

Devoto is the only investigator who found any appreciable increase in the blood sugar level in furunculosis.

Usher, studying eczema, reported that "for many years it has been believed that eczema may be associated with a disturbed carbohydrate metabolism. For example, it has been noted that in some patients who have both eczema and diminished tolerance for sugar, the former condition improved or disappeared following the institution of low carbohydrate diets. More recently, numerous investigations as to the alleged association of the two conditions, particularly by biochemical methods, appear to have resulted in a demonstration of a causal relation. Usher compared "the blood sugar time curves in a series of patients with eczema . . . with those in a series of non-eczematous subjects. The curves were altered in 54.7% of the former group as compared with 38% of the latter. In both groups, the incidence of diminished tolerance for sugar was the same. In those with eczema, however, the incidence of delayed assimilation was much greater than in non-eczematous persons, namely 40.5% as compared with 20%."

20. Greenbaum, S. S.: Tolerance for Dextrose in Acne Vulgaris, Arch. Dermat. & Syph. **23**:1064 (June) 1931.

21. Barbaglia, V.: Rinasc. med. **6**:257 (June 1) 1929.

It is impossible to agree with these conclusions. With the exception of Narducci's results, no definite hyperglycemia has been noted in eczema.

Further study of this table leads to the conclusion that in spite of marked differences in values obtained by the various investigators there is no really conclusive evidence of carbohydrate dysfunction in the dermatologic conditions here reported on.

RÔLE OF CARBOHYDRATE RESTRICTION IN TREATMENT

Mention has been made of the empiric belief that carbohydrates play a rôle in dermatologic conditions, especially in acne. Such a belief leads many physicians to restrict drastically the carbohydrate intake of their patients. Some time ago a 16 year old girl with pustular acne of six months' duration was seen by me. She was thin and underweight. For three months she had been on a restricted carbohydrate diet, under her physician's orders, but with no improvement in the cutaneous condition. Judgment is necessary in the treatment of these conditions. If the patient is overweight, a restricted diet is necessary, but if he is underweight a building-up diet may be required.

Somerford [4] found carbohydrate restriction of no value in acne, nor did he find dietetic treatment satisfactory in pruritus, though he thought that a restriction of the carbohydrate diet lessened the discomfort in many cases.

Benet and Nepveu,[5] who studied furunculosis, found that in many cases the blood sugar was increased, and that restriction of carbohydrates brought down the blood sugar and at the same time improved the condition.

The restriction of carbohydrates in the diet of dermatologic patients must remain empiric. Although no theoretical justification can be given for it, in the light of the findings reported in this paper, if such restriction has a beneficial effect, it must not be discarded simply because the blood sugar level has not been found increased. Much still remains to be learned about the metabolism of the body.

CONCLUSIONS

1. In a study of 600 patients (excluding infants) with the more common skin diseases, hyperglycemia was rarely found.

2. From clinical experience one may conclude that many cutaneous diseases are influenced by the ingestion of an excess of sugar. Determination of the blood sugar, however, is of no practical value as a means of verifying our conclusions.

3. Determination of the blood sugar as made by present methods is of no diagnostic value in the study of the more common diseases of the skin.

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ETIOLOGY OF PITYRIASIS ROSEA

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Considering the comparative insignificance of pityriasis rosea from the point of view of its importance as a disease entity, both as to prognostic import and as to treatment, it is remarkable how much the literature has been filled with reports on different clinical manifestations of the disease and its etiology, and how much controversy of an academic nature has arisen.

My interest in the subject was stimulated by the development of pityriasis rosea simultaneously in Mrs. Lord and our younger son, more complete details of which will be given later. The literature was examined for reports of other cases in families, and it was found that no recent presentation of the evidence scattered throughout the literature for the past half century, with arguments pro and con, had been gathered together since the memorable article of Ludwig Weiss in 1903. As some new facts have been added since then, it was felt that a complete résumé at this time would not be amiss.

Since Gibert's [1] description of pityriasis rosea in 1860, this disease has been a veritable battlefield for dermatologists; originally as to the name of the disease and the clinical types, and more recently as to etiology.

Gibert described only the macular form. Prior to the appearance of his description of the condition, Erasmus Wilson,[2] in 1857, described pityriasis rosea under the name of lichen annulatous serpiginosus. Following Gibert, Bazin,[3] in 1862, described pityriasis rubra aigu. Hardy,[4] in 1868, called it pityriasis disseminé. Horand,[5] in 1876, called it pityriasis circiné. Hebra,[6] in 1876, called it herpes tonsurans maculosus et squamosus. Vidal,[7] in 1877, dubbed it pityriasis circiné et

1. Gibert, C. M.: Traité pratique des maladies spéciales de la peau, ed. 3, Paris, G. Ballière, 1860, p. 402.

2. Wilson, E.: Diseases of the Skin, Philadelphia, Henry C. Lea, 1868, p. 185.

3. Bazin: Les affections génériques de la peau, Paris, A. Delahaye, 1862, p. 331.

4. Hardy: Leçon sur les affections cutanées dartreuses, ed. 2, Paris, A. Coccoz, 1868.

5. Horand: Ann. de dermat. et syph. **7**:352, 1876.

6. Hebra: Lehrbuch der Hautkrankheiten, Stuttgart, Ferdinand Enke, 1876, p. 635.

7. Vidal: Progrès méd. **5**:352, 1877.

marginé. Duhring,[8] in 1880, termed it pityriasis maculata et circinata, and, finally, Behrend[9] suggested the term of roseola furfuracea herpetiformis. In 1884, Colcott Fox[10] reviewed the existing literature, giving priority to Gibert, although mentioning that the condition had been described by Willan as early as 1798 under the name of roseola annulata, and that Rayner, in 1828 described erythema annulatum, which also seems to fit the picture. Fox's paper clarified the atmosphere greatly, and since then the term pityriasis rosea has been generally accepted. Since 1884, many articles have appeared, and the disease rapidly attained the characteristic picture, with several clinical types, which is now generally recognized. Probably the best clinical descriptions in the more recent literature are those of G. H. Fox,[11] Little,[12] Klauder[13] and Weiss, Lane and Showman,[14] as the clinical entity of the disease gradually emerged from the fog of nomenclature and clinical varieties.

The gauntlet of etiology was thrown down first by one school and then by another. I can do no better at this point than to quote Little's[12] summary as to the theories of causation:

> (1) The disease has been ascribed to a parasite, identified with the parasites causing ringworm, by Hebra, Kaposi, and some later members of the Viennese school. This view may be regarded as obsolete. (2) The disease is ascribed to an unidentified parasite, cryptogamic in nature. (3) The disease is not sui generis, but is a stage ("fait de passage") between a number of inflammatory scaly diseases, such as psoriasis, pityriasis rubra pilaris, and psoriasiform parakeratosis. (4) The disease is caused by irritants, such as damp, ill-ventilated garments. (5) The disease is the cutaneous reaction to a toxaemic absorption, and may be associated with gastric dilatation, intestinal disorders, and the puerperal state. (6) The disease is regarded as being of the nature of a specific exanthem, with a special incubation period, a period of evolution, and a period of decline. It is a disease sui generis, with its nearest analogies among the specific fevers.

To carry Little's summary one step further, section 6 might be divided into two subclasses: (*a*) The portal of entry of the disease is through the primary plaque. (*b*) The portal of entry of the disease is through the tonsils and the lymphatic structures of the throat.

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8. Duhring: Am. J. M. Sc. **80**:359 (Oct.) 1880.
9. Behrend: Berl. klin. Wchnschr. **18**:552, 1881.
10. Fox, Colcott: Lancet **2**:485 (Sept. 20) 1884.
11. Fox, G. H.: A Broader View of Pityriasis Rosea, J. A. M. A. **59**:493 (Aug. 17) 1912.
12. Little, G.: Proc. Roy. Soc. Med. **7**:136, 1914.
13. Klauder, J. V.: Pityriasis Rosea, Internat. Clin. **2**:78, 1923; Pityriasis Rosea, with Particular Reference to Its Unusual Manifestations, J. A. M. A. **82**:178 (Jan. 19) 1924.
14. Weiss, R. S.; Lane, C. W., and Showman, W. A.: Pityriasis Rosea, Arch. Dermat. & Syph. **15**:304 (March) 1927.

We have, then, six completely variant views as to the etiology of this most interesting disease, each theory being supported by the best minds in dermatology. (1) Taking the various subdivisions as given, we find very little support for the first since the early eighties when Hebra, Kaposi, Haas and others of the Viennese school propounded the relationship of pityriasis rosea to ringworm. Haas [15] described an attack of pityriasis rosea in himself, followed a few days later by the appearance of an eruption on his wife, his 14 day old child, the child's nurse and, finally, his mother. He attributed the contagion to a definite ringworm infection on his dog (demonstrated by finding of the fungus), although repeated examinations of the scales from the eruption on the bodies of himself and his family failed to reveal any fungus. Failure to isolate a typical ringworm fungus by subsequent competent workers has led to the general discarding of this theory.

(2) Vidal,[16] in 1882, described a micrococcus distinguished notably by its smallness and irregularity in size, which he termed Microsporon dispar or anomoeon. Vidal's observation was confirmed in 1885 by Ferrari.[17] Failure on the part of other workers to confirm this observation led to this theory falling into disfavor until 1912, when Du Bois [18] describing a special technic in handling the scales, confirmed Vidal's observations uniformly. The following year Covisa,[19] using the same technic, confirmed Du Bois' observation. Whitfield,[20] in 1914, attacked the technic advocated by Du Bois and doubted his accuracy.

(3) Brocq,[21] in 1887, placed pityriasis rosea in an intermediate stage between psoriasis, pityriasis rubra pilaris and psoriasiform parakeratosis, and doubted that it was a disease entity. Certain members of the French school have advocated this theory, although it has not been accepted generally.

(4) The Germans, led by Lassar,[22] Kromayer and Finger in Vienna, laid the cause for pityriasis rosea to irritants, such as new garments, damp, ill ventilated articles of apparel, etc. (A review of the etiology of this disease would be incomplete without reference to the opinions as mentioned under sections [1], [3] and [4], but they oppose the experience of the majority.)

(5) This theory, namely, that the disease is a cutaneous reaction to a toxic absorption and may be associated with gastric dilatation,

15. Haas: Berl. klin. Wchnschr. **17**:259, 1882.
16. Vidal: Ann. de dermat. et syph. **3**:22, 1882.
17. Ferrari: Atti d. Accad. Gioenia di sc. nat. in Catania **18**:363, 1885.
18. Du Bois: Ann. de dermat. et syph. **3**:32, 1912.
19. Covisa: Dermat. Wchnschr. **56**:115, 1913.
20. Whitfield: Proc. Roy. Soc. Med. **7**:139, 1914.
21. Brocq: Ann. de dermat. et syph. **8**:615, 1887.
22. Lassar: Deutsche med. Wchnschr. **68**:469, 1892.

intestinal disorders and the puerperal state, finds many proponents. The early leaders in this field are Jacquet [23] Feulard [24] and Besnier,[25] who believed the condition to be produced by gastric dilatation. Sherwell,[26] in 1893, and again in 1896, stated that he believed pityriasis rosea to be a general constitutional disease, not contagious, and cited two cases occurring during the puerperal period, and a case in another patient that occurred in each of two puerperal periods. Allen,[27] in 1896, described a case in which there had been three attacks, each attack following the discontinuance of alcoholic beverages, which produced in the patient severe gastro-intestinal upsets. Jackson [28] concurred in the opinions of Sherwell and Allen. Ludwig Weiss,[29] in 1903, published his masterly presentation on pityriasis rosea and affirmed the belief that the disease was due to gastro-intestinal disturbances. He reiterated this belief in 1927. Leslie-Roberts,[30] in 1914, on the basis of histologic characteristics classed the disease as a toxic erythema, and suggested that it be separated absolutely from the whole group of pityriasis. Hartzell,[31] also in 1914, doubted the parasitic theory because of the self-limitation of the disease, and subscribed to a belief in a systemic reaction. Alderson [32] considered the condition a cutaneous manifestation of some generalized abnormal bodily condition. Finally, Richard Weiss,[33] in 1927, stated the belief that the disease was of internal origin.

(6) The final etiologic theory, namely, that the disease is a specific exanthem with a special incubation period, a period of evolution and a period of decline, should be divided into two subheadings: (*a*) the portal of entry as the herald patch, and (*b*) the portal of entry as the tonsils and lymphatic structures of the throat.

Evidence in favor of this theory is considerable. In the first place, the immunity conferred by one attack is universally recognized and

23. Jacquet: France méd. **1**:981, 1886; Bull. Soc. clin. de Paris **10**:81, 1886; Ann. de dermat. et syph. **10**:383, 1889.

24. Feulard: Ann. de dermat. et syph. **10**:459, 1889; Monatschr. f. prakt. Dermat. **10**:140, 1890.

25. Besnier: Ann. de dermat. et syph. **10**:108, 1889.

26. Sherwell: J. Cutan. Dis. **11**:495, 1893; **14**:355, 1896.

27. Allen: J. Cutan. Dis. **14**:356, 1896.

28. Jackson: J. Cutan. Dis. **14**:355, 1896.

29. Weiss, L.: Pityriasis Rosea, J. A. M. A. **41**:20 (July 4) 1903; in discussion on Weiss, R. S.; Lane, C. W., and Showman, W. A.: Pityriasis Rosea, Arch. Dermat. & Syph. **15**:320 (March) 1927.

30. Leslie-Roberts: Proc. Roy. Soc. Med. **7**:138, 1914.

31. Hartzell: J. Cutan. Dis. **32**:364, 1914.

32. Alderson: J. Cutan. Dis. **32**:353, 1914.

33. Weiss, R., in discussion on Weiss, R. S.; Lane, C. W., and Showman, W. A.: Pityriasis Rosea, Arch. Dermat. & Syph. **15**:322 (March) 1927.

accepted, although instances of second attacks are on record. Second, many writers consider the disease to be epidemic. Third, there are a number of instances cited in the literature of the condition occurring in members of a family simultaneously. Fourth, there are several isolated reports of the apparently infectious nature of the disease, and, finally, after many unsuccessful attempts by several workers, Wile succeeded in producing by inoculation an eruption analogous to pityriasis rosea.

Many writers consider the condition to be epidemic, but there is considerable disagreement as to the times at which the peak of the epidemic is reached. Gibert [1] and Little [12] found the peak to be in the summer; Towle [34] found it to be in the autumn, and Little [12] noticed a secondary peak at this time. Bazin,[3] Moingeard,[35] Tandler,[36] Weiss and his associates [14] and many others found the peak in the spring with secondary peaks in the fall. Crocker,[37] Fiocco,[38] Szaboky [39] and others, while noticing definite cycles, did not believe that the season of the year plays a part.

I have been able to find in the literature eighteen instances of pityriasis rosea occurring apparently as a result of close association, to which are added my own cases, making the total of nineteen reports of apparent contagion. The first was by Horand,[5] in 1876, of two brothers who slept in the same bed. The second reference was that of Haas,[15] which has already been detailed. (This report, I believe, is open to grave doubt as to whether the cases described by him were really cases of pityriasis rosea.) In 1893, Zeisler [40] reported the disease in himself, followed two weeks later by a similar eruption in his wife. Fordyce [41] at the same time reported the condition in a husband and wife, and five years later reported the condition in two sisters, aged 13 and 16, occupying the same room. G. H. Fox [42] reported it in a mother and child. Crocker,[37] in 1903, reported the condition in two instances in two members of a family. In 1914, Little [12] observed the disease in two sisters simultaneously; Whitfield [20] reported the cases of a mother and daughter affected, and McEwen [43] those of a

34. Towle: J. Cutan. Dis. **22**:177, 1904.
35. Moingeard: Thèse de Paris, 1889.
36. Tandler, G.: Arch. f. Dermat. u. Syph. **38**:127, 1896.
37. Crocker: Diseases of the Skin, ed. 3, Philadelphia, P. Blakiston's Son & Company, 1903, p. 408.
38. Fiocco: Monatschr. f. prakt. Dermat. **30**:431, 1900.
39. Szaboky: Monatschr. f. prakt. Dermat. **42**:495, 1906.
40. Zeisler: J. Cutan. Dis. **11**:494, 1893.
41. Fordyce: J. Cutan. Dis. **11**:497, 1893; **16**:340, 1898.
42. Fox, G. H.: J. Cutan. Dis. **16**:340, 1898.
43. McEwen: J. Cutan. Dis. **32**:364, 1914.

husband and wife. In the same year Owens [44] reported three cases in one company (Naval Training Station) in one month, and Dyer [45] observed a small epidemic of four cases in men who had visited a certain turkish bath, and, a few days later, cases in two attendants from this bath who presented themselves for treatment of pityriasis rosea. In 1923, White [46] observed the disease in a physician and his wife simultaneously. In 1927, Balina [47] reported the disease in three brothers living in the same room, each case following the preceding one after an interval of eight days. Weiss and his associates [24] reported in the same year two instances of the disease in a Negro girl, aged 9, and her younger brother, whose age was not stated, and in a mother, aged 31, and her son, aged 14. Wile,[48] also in 1927, reported cases in two women occupying the same room, the eruption appearing in the second one month after its appearance in the first. Finally, I am reporting my cases.

There are several interesting isolated reports that tend to support the theory of infection. Brocq,[49] in 1921, reported the herald patch developing in a gunshot wound on the thigh and in the tissues immediately surrounding the wound. Gougerot and Filliol [50] reported the herald patch developing in and surrounding a healing vaccination wound. Perin,[51] in 1928, reported that pityriasis rosea gave a positive reaction in 95 per cent of twenty cases tested to a streptococcus vaccine. The patients gave negative reactions to a staphylococcus vaccine, and patients with other diseases of the skin, which were known not to be caused by bacteria, who were used as controls gave uniformly negative reactions to the streptococcus vaccine. (This work should undoubtedly be repeated, as, if the findings are confirmed by others, this is a very important contribution to the etiology of pityriasis rosea.)

Wile,[48] in 1927, reported his results with inoculation of pityriasis rosea. He raised a blister on the herald plaque by means of cantharides plaster and used the blister fluid for inoculation by percutaneous injection and by scarification. He reported that several attempts to reproduce the disease failed, but finally, in November, 1926, he succeeded

44. Owens: J. Cutan. Dis. **32**:347, 1914.

45. Dyer: J. Cutan. Dis. **32**:365, 1914.

46. White, C. J., in discussion on Highman, W. J., and Rulison, R. H.: Pityriasis Rosea, Arch. Dermat. & Syph. **7**:172 (Feb.) 1923.

47. Balina: Semana méd. **2**:1169 (Nov. 3) 1927.

48. Wile, U. J.: Experimental Transmission of Pityriasis Rosea, Arch. Dermat. & Syph. **16**:185 (Aug.) 1927.

49. Brocq: Atlas de practique dermatologie, plate 50, Paris, G. Doin, 1921.

50. Gougerot and Filliol: Bull. Soc. franç. de dermat. et syph. **33**:688 (Dec.) 1926.

51. Perin: Bull. Soc. franç. de dermat. et syph. **35**:795 (Nov.) 1928.

in producing what seemed to be an explosive form of pityriasis rosea in three patients who were inoculated percutaneously, and in a fourth who was inoculated by scarification.

To complete the summing up of the evidence for the infectious nature of pityriasis rosea, the opinions of the following dermatologists are briefly quoted. Brocq,[21] Moingeard,[35] Thibierge,[52] Fordyce,[41] Hyde,[53] Levalle,[54] Brayton,[55] Pollitzer,[56] Pusey,[57] Hazen,[58] G. H. Fox,[59] MacLeod,[60] Winfield,[61] Dore,[62] Owens,[44] Kingsbury,[63] Wile [48] and Highman and Rulison [64] consider the disease to be exanthematous, comparing it variously to syphilis, measles and scarlatina. Stelwagon,[65] Crocker,[66] Bronson,[67] Piffard,[68] Lustgarten,[69] Bulkley,[70] Heidingsfeld,[71] Anthony [72] and Dyer [45] believe the condition to be parasitic or microbic.

The controversy as to the portal of entry of the infection (if, indeed, it is infectious) has at times become almost bitter. Several writers, namely, MacLeod,[60] Winfield,[61] Dore,[62] Owens [44] and Hazen,[58] favor the tonsils as the portal of entry. MacLeod found the tonsils involved frequently, and noted a general glandular enlargement asso-

52. Thibierge: Ann. de dermat. et syph. **10**:20, 1889.

53: Hyde, J. N.: J. Cutan. Dis. **11**:496, 1893.

54. Levalle: J. de méd. int., Paris **4**:741, 1900.

55. Brayton, A. W.: J. Cutan. Dis. **32**:365, 1914; in discussion on Weiss, L.: Pityriasis Rosea, An Erythematous Eruption of Internal Origin, J. A. M. A. **41**:27 (July 4) 1903.

56. Pollitzer, S.: J. Cutan. Dis. **32**:363, 1914; in discussion on Highman, W. J., and Rulison, R. H.: Pityriasis Rosea, Arch. Dermat. & Syph. **7**:173 (Feb.) 1923.

57. Pusey, W. A.: J. Cutan. Dis. **32**:364, 1914.

58. Hazen, H. H.: (*a*) J. Cutan. Dis. **32**:365, 1914; (*b*) in discussion on Highman and Rulison (footnote 46); (*c*) Etiology and Treatment of Pityriasis Rosea, J. A. M. A. **91**:645 (Sept. 1) 1928; (*d*) South. M. J. **24**:937 (Nov.) 1931.

59. Fox, G. H.: J. Cutan. Dis. **32**:363, 1914.

60. MacLeod: Proc. Roy. Soc. Med. **7**:144, 1914.

61. Winfield: J. Cutan. Dis. **32**:365, 1914.

62. Dore: Proc. Roy. Soc. Med. **7**:145, 1914.

63. Kingsbury, J., in discussion on Highman, W. J., and Rulison, R. H.: Pityriasis Rosea, Arch. Dermat. & Syph. **7**:172 (Feb.) 1923.

64. Highman, W. J., and Rulison, R. H.: Pityriasis Rosea, Arch. Dermat. & Syph. **7**:163 (Feb.) 1923.

65. Stelwagon: J. Cutan. Dis. **11**:494, 1893.

66. Crocker: J. Cutan. Dis. **11**:494, 1893.

67. Bronson: J. Cutan. Dis. **11**:495, 1893.

68. Piffard: J. Cutan. Dis. **14**:356, 1896.

69. Lustgarten: J. Cutan. Dis. **14**:355, 1896.

70. Bulkley, L. D.: J. Cutan. Dis. **14**:355, 1896; in discussion on Weiss, L.: Pityriasis Rosea, An Erythematous Eruption of Internal Origin, J. A. M. A. **41**:27 (July 4) 1903.

71. Heidingsfeld, M. L., in discussion on Weiss (footnote 70).

72. Anthony, H. G., in discussion on Weiss (footnote 70).

ciated with the eruption. Dore noted the frequency with which the cervical glands are enlarged. Owens described acute tonsillitis in 40 per cent of thirty cases reported by him. Hazen [58d] found evidence of diseased tonsils or lymphatic structures of the throat in 94 per cent of seventy cases. He stated further that the same degree of tonsillar and lymphatic structures were damaged in only 20 per cent of three hundred consecutive cases of other cutaneous diseases used as controls.

Evidence in favor of the herald patch being the portal of entry is suggested by the case reports of Brocq,[49] Gougerot and Filliol,[50] described earlier, and by the work of Wile [48] in reproducing the disease by inoculation of the blister fluid from the herald patch. The main defender of the herald patch as the portal of entry is Highman.[73] Our own cases likewise seem to point to the herald patch as the portal of entry.

REPORT OF CASE

On April 5, 1930, Mrs. Lord called my attention to an eruption in our younger son, aged 3 years. Examination revealed a typical eruption of pityriasis rosea, a detailed description of which need not be given here. At the same time she showed me a patch on her right flank, measuring 5 by 3 cm. This patch had all the characteristic attributes of the herald plaque. Three microscopic examinations with potassium hydroxide failed to reveal any evidence of fungus, and two cultures on Sabouraud's conservation medium failed to show a growth. There was no evidence of any eruption elsewhere on Mrs. Lord's body. A half unit of unfiltered roentgen rays was applied to this patch on April 5, and calamine lotion, N.F., was prescribed to be used locally. No further treatment was given. The patch persisted for seventeen days, finally fading away and leaving no evidence of its presence. At no time did generalized pityriasis rosea develop.

COMMENT

Is the occurrence of pityriasis rosea in two of more members of the same family, simultaneously, evidence of infection, or is it merely a coincidental finding? The consensus from comprehensive studies of numerous writers, notably Crocker,[37] Stelwagon,[74] Towle [34] and Adamson,[75] is that the disease is comparatively rare, being found in proportions of four per thousand to as high as forty per thousand skin diseases, in other words, in from less than 0.5 per cent to as high as 4 per cent of cutaneous conditions. It is strange, therefore, that for a

73. Highman, W. J., in discussion on Highman, W. J., and Rulison, R. H.: Pityriasis Rosea, Arch. Dermat. & Syph. **7**:175 (Feb.) 1923; in discussion on Weiss, R. S.; Lane, C. W., and Showman, W. A.: Pityriasis Rosea, Arch. Dermat. & Syph. **15**:321 (March) 1927; in discussion on Hazen, H. H.: South. M. J. **24**:939 (Nov.) 1931.

74. Stelwagon, H. W.: Essentials of Diseases of the Skin Including the Syphilodermata, ed. 7, Philadelphia, W. B. Saunders Company, 1909.

75. Adamson, H. W., in Allbutt, T. C., and Rolleston, H. D.: System of Medicine, New York, The Macmillan Company, 1911, vol. 9, p. 395.

disease of the comparative rarity of pityriasis rosea there has been reported in the literature no less than nineteen instances of the eruption appearing simultaneously in two or more members of a family if such an occurrence is to be considered purely accidental. It seems to me that this is stretching the long arm of coincidence. The isolated reports of Brocq,[49] Gougerot and Filliol,[50] the unconfirmed work of Perin [51] with streptococcus vaccines, the evidence as advanced by Wile [48] in the transmission of the disease, all point strongly toward the infectious nature of the disease and, further, toward the herald patch as the portal of entry. In my case, the action of the roentgen exposure on the herald patch as an abortifacient of the generalized eruption seems to point to the focus of dissemination through the herald patch. All of these isolated examples argue strongly against various other theories as to the etiology of pityriasis rosea and also against the theory of the tonsils as a portal of entry, and bring the disease to a position more analogous to that of syphilis with its primary lesion at the portal of entry, followed, after an incubation period, by a general exanthem, with or without generalized symptoms, and adenopathy, including enlargement of the tonsillar tissues as a part of the general adenopathy. No attempt is made here to discuss the etiologic organism as to type: fungus, micrococcus or filterable virus. Further work along the lines instigated by Wile will probably eventually solve this problem.

SUMMARY

1. Presentation is made of two cases of pityriasis rosea occurring simultaneously in the same family.

2. The action of the roentgen ray as a preventive of generalization of the eruption in one case is described.

3. Various hypotheses as to the etiology of pityriasis rosea as stated in the literature are quoted, and arguments for various theories are presented.

CONCLUSION

I submit the theory that pityriasis rosea is a feebly infectious disease, the causative organism of which has not yet been discovered, and the portal of entry is the herald patch.

PITYRIASIS LICHENOIDES ET VARIOLIFORMIS ACUTA

REPORT OF A CASE

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In 1916, Mucha,[1] of Vienna, described a polymorphic eruption of the skin characterized by macular, moderately scaly papular and papulonecrotic lesions which formed hemorrhagic crusts and left small, whitish scars, often with a halo of moderate pigmentation. New lesions appeared in crops, while older lesions involuted in a few weeks. Subjective or objective symptoms, other than the presence of the eruption, were lacking, and, because there was some resemblance histologically to the complex, chronic dermatosis known as pityriasis lichenoides chronica of parapsoriasis guttata, Mucha reported the condition as a variant of this disease. Similar cases were reported in Vienna by Rusch,[2] Oppenheim [3] and Krüger [4] within the next five years, but none were cited from other countries until 1926, when Habermann [5] reported two cases in Germany under the title of pityriasis lichenoides et varioliformis acuta. Gray [6] reported the first case in England in 1926. Juliusberg [7] published a complete bibliography of the cases up to 1928. In 1928, Wise,[8] in reviewing parapsoriasis, suggested the title parapsoriasis varioliformis for the lengthy and unwieldy title, pityriasis lichenoides et varioliformis acuta of Habermann, and, in 1930, Wise and Sulzberger [9] reported the first American case. Similar cases have been reported from Poland, Russia, Japan, France and other countries, bringing the number to about fifty cases.

There has been considerable discussion as to the proper classification of the disease; several writers believe it to be a variant of pityriasis lichenoides chronica, while others consider it a distinct disease *sui*

1. Mucha, V.: Arch. f. Dermat. u. Syph. **123**:586, 1916.
2. Rusch: Arch. f. Dermat. u. Syph. **125**:167, 1918; ibid. **137**:32, 1921.
3. Oppenheim, M.: Arch. f. Dermat. u. Syph. **133**:119, 1921.
4. Krüger, P.: Zentralbl. f. Haut.- u. Geschlechtskr. **7**:241, 1922.
5. Habermann, R.: Dermat. Ztschr. **45**:42, 1926.
6. Gray, A. M. H.: Brit. J. Dermat. **39**:151, 1927.
7. Juliusberg, F.: Die Erythrodermien, in Jadassohn: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1928, vol. 7, pt. 1, p. 311.
8. Wise, F.: New York State J. Med. **28**:901 (Aug. 1) 1928.
9. Wise, F., and Sulzberger, M. B.: M. J. & Rec. **132**:331 (Oct. 1) 1930.

generis, constituting a separate entity. Mucha,[1] Habermann,[5] Almkvist [10] and others believe that the histologic features are sufficient to group it with pityriasis lichenoides chronica, saying that this disease may have clinical variations just as syphilis may assume various forms. Jadassohn, Rille, Arndt, Gross [11] and others have seen hemorrhagic and necrohemorrhagic papules in undoubted cases of pityriasis lichenoides et varioliformis acuta subside and continue as typical examples of pityriasis lichenoides chronica. On the other side of the argument, Buschke,[12] Riehl, Kyrle, Oppenheim and Drake believe that pityriasis lichenoides et varioliformis acuta is a separate and distinct entity not related to genuine pityriasis lichenoides chronica. To this latter view, Pusey,[13] Highman, Pollitzer and others accede. The future will decide the exact nosologic position of this acute varioliform variety of pityriasis lichenoides and remove the seemingly inextricable confusion which surrounds it at present.

CLINICAL MANIFESTATIONS

Pityriasis lichenoides et varioliformis acuta (Habermann) or parapsoriasis varioliformis (Wise) affects males about seven times more frequently than females. Most cases occur between the ages of 13 and 26 years, but cases have been reported in children of 4 years and in adults up to 50 years of age. The case I am reporting occurred in a girl of 22 months; this is the youngest patient I have been able to find in the cases reported in the literature.

The eruption occurs uniformly on the trunk and the extremities, affecting the anterior surface of the trunk and the flexor surfaces of the extremities more than the posterior surfaces. The eruption has been reported to have occurred on the face by Gray,[14] MacCormac [15] and Roxburgh.[16] A few lesions were present on the forehead and cheeks of the patient in the case I am reporting. The palms and soles and the mucous membranes are spared.

The eruption appears as small, bright red macules with a small central vesicle which dries into a small crust. The zone about the small central vesicle becomes infiltrated, converting it into a round or oval,

10. Almkvist, J.: Dermat. Ztschr. **46**:157, 1926.

11. Gross, P.: Pityriasis Lichenoides et Varioliformis Acuta, Arch. Dermat. & Syph. **23**:33 (Jan.) 1931.

12. Buschke, A., in discussion of Bruhns, C.: Zentralbl. f. Haut- u. Geschlechtskr. **24**:322, 1927.

13. Pusey, W. A., in discussion of Senear, F. E., and Oliver, E. A.: Pityriasis Lichenoides et Varioliformis Acuta (Habermann), Arch. Dermat. & Syph. **23**:29 (Jan.) 1931.

14. Gray, A. M. H.: Brit. J. Dermat. **41**:19, 1929.

15. MacCormac, H.: Proc. Roy. Soc. Med. **15**:62, 1922.

16. Roxburgh, A. C.: Brit. J. Dermat. **42**:70, 1930.

sharply defined, raised papule which gradually enlarges peripherally until it is from 3 to 7 mm. in diameter. The smaller papules are frequently lichenoid, while the larger papules are obtuse and covered with scale. The central vesicle or crust-covered erosion enlarges until it is from 2 to 4 mm. in diameter. The papular element has a smooth pinkish or dusky red color and a slightly waxy appearance. The central vesicular element may become either a slightly adherent whitish or dull yellow scale or a brownish or hemorrhagic crust which eventually drops off, revealing a shallow erosion. As the papule becomes flatter and recedes, a small collaret of scale may sometimes be observed about it. The necrotic center dries; the crust drops off, and a small, flat, round or oval, whitish scar is left, which is very similar to the scar of variola, though not so deep and usually smaller. A narrow brownish zone of pigmentation often encircles the flattish scar. As older and larger lesions are involuting, new lesions are constantly recurring, so that all stages of the eruption are usually observed, giving the eruption a distinct polymorphism consisting of macules, lichenoid or obtuse papules, papulovesicular and hemorrhagic and necrotic lesions in their various stages of development. The eruption is predominately papular, papulovesicular or papulonecrotic. Some lesions present a brownish or blackish crust with an inflammatory areola, while others show central necrosis with an inflammatory areola. The duration of a single lesion from its onset to its disappearance is from two to six weeks, and the average duration of the disease is from one to six months, though in some cases it has extended to two years.

A characteristic feature is the absence of itching. There is an absence of premonitory symptoms such as malaise, sore throat or elevation in temperature and these symptoms are not manifested during any period of the eruption. A mild questionable malaise has been noted at the onset in some of the reported cases. Adenopathy is absent, though some cases have shown a slight general enlargement of the cervical, axillary, epitrochlear and inguinal glands. Oppenheim [17] reported two cases with itching, one with markedly inflammatory lesions and the other with itching during the onset of the eruption. Gross [11] reported a case the onset of which was accompanied with profuse sweating, slight elevation in temperature and moderate adenopathy. Gray [14] reported general adenopathy in one case. Recurrence of the eruption after its complete subsidence has been noted, and instances in which it has recurred three times have been reported by Bruhns,[18] Buschke [19]

17. Oppenheim (footnote 3); Zentralbl. f. Haut- u. Geschlechtskr. **1**:107 and 217, 1921.

18. Bruhns, C.: Zentralbl. f. Haut- u. Geschlechtskr. **24**:322, 1927.

19. Buschke, A.: Zentralbl. f. Haut- u. Geschlechtskr. **26**:459, 1928.

and Davis.[20] The blood cell counts and urinalysis reveal nothing abnormal. Reactions of the skin to tuberculin have been positive in a few instances.

HISTOLOGY

The microscopic pathology of pityriasis lichenoides et varioliformis acuta has been thoroughly studied by Mucha,[1] Oppenheim,[3] Almkvist,[10] Wise and Sulzberger,[9] Senear and Oliver,[21] Gross,[11] Diasio [22] and others whose reports show striking agreement and favor the classification of the disease with pityriasis lichenoides. The following histologic features are taken from their reports.

The early macules show a tendency to dissolution of groups of epidermal cells in the region of the basal layer with the formation of small irregular spaces containing a few red blood cells. This space formation often entirely obliterates the basal cells in the area involved, causing the floor of the vesicle to rest directly on the corium. The corium shows some interstitial edema.

The early papule shows slight acanthosis but no increase in the stratum corneum and no parakeratosis. The rete cells show slight spongiosis and intercellular edema. Irregular spaces of vesicle formation are found just above the basal layer, some, with the basal layer having disappeared, rest directly on the corium. Red blood cells may be found in the clear spaces, and scattered polymorphonuclear leukocytes are found among the epidermal cells surrounding them. The upper corium or papillary body shows a sharply demarcated infiltration of small round cells which is more marked in the region of the capillaries and often extends upward into the epidermis, obliterating the basal cells in areas. The upper corium also shows some interstitial edema, and the lower corium may show areas of perivascular infiltration.

The older papules show a moderately thick scale over a slightly thinner epidermis in which there is moderate parakeratosis. The subpapillary rete is especially thinned and shows intercellular edema. Between the rete pegs the basal cells may be disorganized or disrupted by a lymphocytic infiltrate from the corium. Small accumulations of leukocytes (inceptive miliary abscesses?) occur among the epidermal cells adjacent to the disrupted basal cells. The corium shows considerable interstitial edema and a diffuse and perivascular lymphocytic infiltration.

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20. Davis, H., in discussion of Wigley, J. E. M.: Proc. Roy. Soc. Med. **23**:353, 1930.

21. Senear, E. F., and Oliver, E. A.: Pityriasis Lichenoides et Varioliformis Acuta, Habermann, Arch. Dermat. & Syph. **23**:12 (Jan.) 1931.

22. Diasio, F. A.: Pityriasis Lichenoides et Varioliformis Acuta (Habermann), Arch. Dermat. & Syph. **24**:72 (July) 1931.

The papulonecrotic lesion shows masses of broken down epidermal cells and marked destruction of the epidermal structure by an inflammatory exudate of lymphocytic and polymorphonuclear cells. Here and there are irregular spaces of destroyed epidermal cells containing cell detritus and free nuclei. The crust of the necrotic process consists of coagulated blood, serum and fibrin, and beneath it the epidermis is entirely destroyed. The corium beneath this mass of inflammatory exudate and necrosis shows considerable edema, diffuse and perivascular leukocytic infiltration and dilated and congested blood vessels.

REPORT OF CASE [23]

M. A., a white girl, aged 22 months, of German parentage and normal physical development, at the age of 8 months developed small bright red macular lesions with a small central papule or vesicle on the flexor surfaces of the arms, which were followed in a few days by similar lesions on the anterior and posterior surfaces of the trunk and buttocks and later on the thighs and legs. The pinkish macule measured from 4 to 8 mm. in diameter, and the central papule or vesicle measured from 1 to 2 mm., but in a few days the central papule or vesicle enlarged to 3 or 4 mm. while the macular areola diminished in size. The vesicular content, though at first clear, became an opaque gray or of a yellowish purulent character and later dried into a small yellow crust. As the vesicopustule enlarged or became a small adherent crust, the receding macular element diminished to a narrow zone of dusky red infiltration. The central papule in several of the early macular lesions enlarged peripherally, at the cost of the macular element, into a round or oval obtuse, slightly elevated papule, from 4 to 8 mm. in width, with a reddish or brownish waxy appearance and later a pale yellow or grayish scale. Smaller papules assumed a distinctly lichenoid appearance. Beneath the dried crusts of the once vesicopustular lesions or in the center of the scale-covered papules a distinct erosion or necrosis occurred. Necrotic lesions showed a dusky red papular periphery and a dirty yellow crust, often distinctly hemorrhagic, covering the central necrosis. These papulonecrotic lesions measured from 4 to 8 mm. in diameter. The central yellowish or hemorrhagic crust dropped off after two or three weeks, leaving a shallow rounded erosion from 3 to 5 mm. in diameter, which soon healed, leaving a small round or oval, flat or slightly depressed varioliform scar with a narrow areola of dark brown pigmentation which eventually disappeared.

The evolution period of an individual lesion from its onset to its subsidence was three or four weeks. New lesions appeared every few days and seemed to erupt in crops while older lesions were involuting, after going through a scaling papular or a necrosing papular or papulovesicular phase, into small whitish scars with a pigmented border. The lesions were always discrete and their number sparse. A definite polymorphism was noted in the eruption because all stages from the inception to complete subsidence were constantly present.

The lesions were most numerous on both surfaces of the trunk and over the buttocks. There was a suggestive arrangement of the lesions in the lines of cleavage on the back. They were fairly numerous on the arms, forearms, thighs and legs, particularly on the flexor surfaces. Lesions were sparsely scattered over the shoulders, neck, forehead, sides of the face and on the dorsal surfaces of the

23. The case report is made by the permission of Dr. James K. Everhart.

hands and feet. The scalp, palms and soles did not show lesions at any time nor were any observed on the mucous membranes.

A small lymphadenitis was constantly present in the cervical, axillary, epitrochlear and inguinal regions. The child did not complain of itching or discomfort at any time and only referred to the lesions with a sort of wonderment as she pointed to them and called them "weewees." Neither at the onset of the disease nor at any time during its protracted course of fourteen months were symptoms such as malaise or elevation of temperature noted. The results of urinalysis and blood cell counts were normal, and the Kahn reaction of the blood was negative. The parents refused to permit a tuberculin reaction test or a biopsy. There was no family history of tuberculosis.

DIAGNOSIS

Several cases have been considered at their onset as varicella of an unusual type. In lesions with larger vesicles this error might readily occur, but the absence of malaise, elevation in temperature and general adenopathy, the distinctly inflammatory character of the papulonecrotic lesions, their course and duration and the absence of varicella contacts in the patient's history soon determines one against the diagnosis of varicella.

Atypical variola may be considered in the early stage of the eruption, but the lesions themselves are not varioliform, i. e., uniform, shotty, precipitate, umbilicated globular vesicles or pustules without an inflammatory areola.

Papular or papulopustular syphilis is sometimes suggested by the waxy, collaretted appearance of the papules, but they are distinctly redder, not brownish or coppery as in syphilis, and appear only on the trunk and extremities, rarely on the face and never on the palms and soles. The scars may resemble those of malignant syphilis.

The papulonecrotic lesions of pityriasis lichenoides et varioliformis acuta resemble somewhat those of papulonecrotic tuberculosis of the skin. The lesions of the latter are found more prominently on the face and extremities, are not so extensive or so inflammatory and involute more slowly, and new lesions do not erupt in crops every few days as they do in pityriasis lichenoides et varioliformis acuta.

An atypical pityriasis rosea may be thought of in some cases, especially in those with lesions following the lines of cleavage of the skin on the trunk, but papulonecrotic lesions are never seen in pityriasis rosea which shows oval, fawn-colored, superficial, finely scaling plaques with bright or dull pinkish-rose areolae, the diffuse onset of which, over the trunk, the upper part of the arms and the thighs, is preceded by a similar though larger "herald" plaque by a week or ten days. Pustular lesions in pityriasis rosea have been described.

COMMENT

To apply the term "acute" to a disease process which lasts so many months is undoubtedly erroneous, although it may be applied to the

course and character of a single lesion. There are many features sufficient to consider the disease as a subacute infection from some as yet undetermined cause. Clinically, there is much to suggest that it might be a widely disseminated variety of papulonecrotic tuberculosis of the skin, each lesion representing the cutaneous reaction to a tubercle bacillus or possibly one of its mutation forms. The early investigators may be correct in considering this disease as a variant type of pityriasis lichenoides chronica. While it is true that a few cases have eventually resolved into typical pityriasis lichenoides, the great majority have not done so. Pityriasis lichenoides chronica usually runs a course of many years, whereas pityriasis lichenoides et varioliformis acuta disappears spontaneously after many months. Cases of pityriasis lichenoides chronica of sudden onset and spontaneous involution in a few months have been reported by Riecke.[24]

TREATMENT

There is no treatment which has shown specific influence on the course of the disease. In the case reported the patient apparently responded to treatment with erythema doses of ultraviolet light and weekly intramuscular injections of sodium arsenate in small doses.

1202 Westinghouse Building.

24. Riecke, E.: Arch. f. Dermat. u. Syph. **83**:411, 1897.

DERMATOLOGIC CONDITIONS OF THE FETUS

WITH PARTICULAR REFERENCE TO VARIOLA AND VACCINIA

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We have attempted to develop a reasonable approach to the diagnosis of a case that we are reporting, that of a 6 months fetus presenting a generalized bullous eruption. The usual diagnoses of syphilis, pemphigus neonatorum and epidermolysis bullosa could apparently be excluded. The study has been made under the following divisions:

1. A classification and brief review of fetal dermatology.
2. The relation of the infectious diseases to pregnancy and the fetus.
3. A review of forty-seven reported cases of fetal variola and presentation of a case believed to be pemphigoid fetal vaccinia.

DERMATOLOGIC CONDITIONS OF THE FETUS

Most examples of fetal cutaneous pathology are due to genetic imperfections. Unna [1] pointed out that the group which he calls "Missbildungen" is constantly expanding. Tumors form another large percentage of cutaneous conditions in the fetus. Only a small number of bullous eruptions are seen. A review of the so-called congenital diseases showed that the terminology has been inexact. It is well known that most of these lesions develop later in life, although they may be dependent on some inherent predisposition. Hallopeau [2] showed that the number of patients exhibiting nevi increases from 15 per cent in the new-born to 61 per cent in adults; Kramer [3] pointed out that only 58 per cent of angiomas were noticed at birth.

Historical Data.—The most active worker in the field of human teratology was Ballantyne, an Edinburgh obstetrician. The earliest observations were almost limited to monstrosities. Düttel,[4] in his thesis

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The case is reported through the courtesy of Dr. H. E. Michelson, who established the diagnosis on the basis of clinical and pathologic studies. He assisted in planning this review. The case was seen in the service of Dr. Fred Adair.

1. Unna, P. G.: Histopathology of Diseases of the Skin, translated by Norman Walker, New York, The Macmillan Company, 1896.

2. Hallopeau, quoted by Bettmann, in Schwalbe, Ernst: Die Morphologie der Missbildungen des Menschen und der Tiere, Jena, Gustav Fischer, 1912, p. 640.

3. Kramer, quoted by Bettmann (footnote 2, p. 698).

4. Düttel, P. J.: Dissertatio inauguralis medica-practica de morbis fœtuum in utero materno, Thèse, 1702; quoted by Ballantyne, J. W.: Teratologia **1**:37, 1894.

for the doctorate at Halle in 1702, provided the first comprehensive study of fetal diseases. The title page of this work is dated 1602, an error that is explained by Ballantyne. He ascribed to Madge [5] the first English work on diseases of the fetus (1854). Roberts,[6] in 1839, classified and discussed briefly fifteen examples of cutaneous disease: petechiae (he believed many of these cases to be syphilitic or traumatic), icthyosis, pemphigus, syphilis, the exanthems (variola, scarlatina and measles), elephantiasis, sclerema, anasarca, erysipelas, icterus, local absence of skin, congenital development of papillae, leukopathia, warts and nevi. Ballantyne assembled his own observations and filled several volumes with a discussion of the more common diseases of the fetus.[7] He founded an interesting but short-lived journal *Teratologia*. The "Manual of Antenatal Pathology and Hygiene" formed his last major contribution to this field.[8] He pointed out that many of the inaccuracies in reports of fetal cutaneous pathology are due to lack of opportunity for the dermatologist to observe and inability of the obstetrician properly to describe and classify his own observations.

Schwalbe edited a "Handbuch" of congenital anomalies, reviewing the entire field of teratology. Bettmann [9] compiled that chapter dealing with cutaneous "Missbildungen"; there was no discussion of infectious diseases. He has been far more careful than most authors in distinguishing between congenital and inherited conditions.

Congenital Cutaneous Pathology.—We have attempted to outline the various cutaneous diseases present at birth. In many instances the literature has been difficult to evaluate because of inexact usage of the word congenital.

I. Conditions related to fetal environment
   1. Persistence of vernix caseosa
   2. Fetus papyraceous
   3. Maceration in the live fetus [7]
   4. Persistence of epitrichium
   5. Amniotic bands

II. Ectodermal anomalies
   1. Congenital ectodermal defect syndrome
   2. Local absence of epidermis

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5. Madge, H. M.: Diseases of the Fetus, London, H. Renshaw, 1854; quoted by Ballantyne, J. W.: Teratologia, 1895, vol. 2.

6. Roberts, W. C.: On Diseases of the Fetus, Am. J. M. Sc. **26**:371, 1839.

7. Ballantyne, J. W.: The Diseases and Deformities of the Fœtus, Edinburgh, Oliver & Boyd, 1895.

8. Ballantyne, J. W.: Manual of Antenatal Pathology and Hygiene: The Fœtus, Edinburgh, W. Green & Sons, 1902.

9. Bettmann: Die Missbildungen der Haut, in Schwalbe, Ernst: Die Morphologie der Missbildungen des Menschen und der Tiere, Jena, Gustav Fischer, 1912, pt. 3, no. 7, sect. 2.

3. Trichoses
   (*a*) Hypertrichosis (circumscribed, universal)
   (*b*) Hypotrichosis (circumscribed, universal)
4. Onychoses
   (*a*) Anonychia
   (*b*) Onychogryphosis
   (*c*) Onychauxis
5. Chromatoses
   (*a*) Albinism
   Complete: total absence of pigment formation, universal. Partial: total absence of pigment formation, circumscribed. Incomplete: general lessening of pigment formation
   (*b*) Melanoderma
   (*c*) Nigrites
   (*d*) Mongolian spots
   (*e*) Nevus pigmentosus
   (*f*) Lentigo
6. Disturbances of sudoriparous glands
   (*a*) Hyperhidrosis
   (*b*) Hypohidrosis
   (*c*) Hidrocystoma [10]
7. Disturbances of sebaceous glands
   (*a*) Milium [11]
   (*b*) Comedo
   (*c*) Acne
   (*d*) Seborrhea
8. Supernumerary nipples and breasts

III. Keratoses
1. Icthyosis congenita
2. Icthyosis follicularis
3. Keratoma palmare et plantare
4. Leukokeratoses of mucous membranes

IV. Keratolyses
1. Pemphigus congenitus
2. Epidermolysis bullosa
3. Periodic keratolysis
4. (Syphilis)

V. Disturbances of subcutaneous tissue
1. Edema
2. Atrophy
3. Abscess
4. Sclerema (fat necrosis)
5. Scleroderma
6. Elephantiasis
   (*a*) Fibrous
   (*b*) Hemangiomatous
   (*c*) Lymphangiomatous

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10. Hinselmann, H.: Ueber angeborene Sekretstauung in den Talg- und Schweissdrüsen, Arch. f. Dermat. u. Syph. **111**:611, 1912.

11. Leiner, C., in Jadassohn: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1930, vol. 14, pt. 1, p. 462.

7. Von Recklinghausen's syndrome
8. Cutis laxa

VI. Nevus
1. Nevus: hard (verrucous), soft, hairy, pigmented, linear (ichthyosis hystrix)
2. Angioma (simple, cavernous)
(*a*) Hemangioma
(*b*) Lymphangioma
3. Urticaria pigmentosa [12]

VII. New growth: fibroma,[13] leiomyoma, lipoma (cystic), myxoma, teratoma, xanthoma,[14] metastatic malignant tumors,[15] preauricular appendages, acanthoma adenoides cysticum, adenoma sebaceum

VIII. Infectious diseases: rubeola, scarlatina, syphilis, typhoid fever, typhus fever, vaccinia, varicella, variola

Persistence of the epitrichium may be mentioned only to state Ohmann-Dumesnil's belief that it is the result of an ichthyotic process with a lack of development of the hair and sebaceous glands.[16] Streeter [17] regarded amniotic bands not as adhesions but as anomalous developmental structures, and local defects as genetic imperfections rather than the result of trauma.

MacKee and Andrews [18] gave an excellent survey of the ectodermal anomalies and added a case to the group previously described by Goeckermann.[19] Gordon and Jamieson [20] have summarized the cases since reported. Christ,[21] in a recent work, reviewed an extensive literature in this field, discussing the interrelation of these defects and their relation to mental deficiency and ocular disturbances. Epidermolysis bullosa is frequently associated with several defects in this group.

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12. Engel, I.: Zur Kenntnis der Urticaria pigmentosa, Arch. f. Kinderh. **43**: 156, 1906.

13. Ballantyne, J. W.: Fibroma of the Scalp in a Newborn Infant, Edinburgh M. J. **1**:339, 1897.

14. James, W. D.: Case of Congenital Xanthoma Multiplex, Brit. M. J. **2**:805, 1894.

15. Bedford, G. V.: Case of Carcinoma of the Thymus with Extensive Metastases in a New-Born Child, Canad. M. A. J. **23**:197, 1930.

16. Ohmann-Dumesnil: The Human Epitrichium, Teratologia, 1894, vol. 1.

17. Streeter, G. L.: Focal Deficiencies in Fetal Tissues and Their Relation to Intra-Uterine Amputation, Contrib. Embryol. **22**:1, 1930.

18. MacKee, G. M., and Andrews, G. C.: Congenital Ectodermal Defect, Arch. Dermat. & Syph. **10**:673 (Dec.) 1924.

19. Goeckermann, W. H.: Congenital Ectodermal Defect, with Report of a Case, Arch. Dermat. & Syph. **1**:396 (April) 1920.

20. Gordon, W. H., and Jamieson, R. C.: Hereditary Ectodermal Dysplasia of the Anhidrotic Type, Ann. Int. Med. **5**:358, 1931.

21. Christ, J.: Ueber die Korrelationen der kongenitalen Defekte des Ektoderms untereinander, mit besonderer Berücksichtigung ihrer Beziehungen zum Auge, Zentralbl. f. Haut- u. Geschlechtskr. **40**:1, 1932.

Disturbances of the nails are relatively common, but total absence is quite rare. Disturbances in pigment formation are common. Knowles [22] gave a good review of albinism and discussed the application of Mendel's law to this and other cutaneous changes.

Disturbances in sebaceous structures and activity show no sharp division between normal and pathologic conditions. They have been well studied by Kraus.[23]

Keratoma palmare et plantare is rarely congenital, although the thickening appears soon after birth in some cases. It is occasionally accompanied by hyperkeratoses of the mucous membranes;[9] rarely do these changes occur alone (keratosis tonsillaris [24]).

Freeman's recent addition of two cases of pemphigus congenitus [25] with a discussion of the pathogenesis should be noted. Labhardt and Wallart pointed out previous errors in reporting cases of syphilis, epidermolysis bullosa and impetigo neonatorum.[26] Periodic keratolysis, resembling the cyclic deciduation of reptiles, may begin as a fetal keratolysis.

Ballantyne spent much time on the description of diseases of the subcutaneous tissue.[7] Sclerema and fat necrosis are apparently identical. There is usually present in these cases a thickened inelastic skin over the extremities, often associated with a bloody diarrhea, a pallid fetus and a subnormal temperature. This condition is frequently fatal.

Weidman [27] described a case which he believed to be scleroderma in the new-born. Eggert [28] presented a different case with a similar diagnosis; the description available in the literature is inadequate for critical review.

Nevi have been the subject of a plentiful literature. It may be of interest to note that Hutchinson suggested intra-uterine herpes zoster as the cause of ichthyosis hystrix.

Tumors of the fetus are not at all rare; sacral teratomas seem to be the most common. Otherwise benign tumors may lead to fetal death through dystocia.

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22. Knowles, F. C.: Family Albinism, Interstate M. J. **23**:555, 1916.

23. Kraus, A.: Ueber Akne neonatorum, Arch. f. Dermat. u. Syph. **116**:704, 1913.

24. Gäbert, E.: Ueber Epithelverhornung der Gaumenmandeln, München. med. Wchnschr. **69**:431, 1922.

25. Freeman, C. D.: Pemphigus Neonatorum Congenitus or Impetigo Neonatorum Congenita, Arch. Dermat. & Syph. **24**:1058 (Dec.) 1931.

26. Labhardt, A., and Wallart, J.: Ueber Pemphigus neonatorum simplex, Ztschr. f. Geburtsh. u. Gynäk. **61**:600, 1908.

27. Weidman, F. D.: Necropsy Findings in a Case of Congenital Scleroderma and Sclerodactylia, Arch. Dermat. & Syph. **1**:375 (April) 1920.

28. Eggert, C.: Ein Fall von angeborener Sklerodermie, Ztschr. f. Kinderh. **8**:99, 1914.

INFECTIOUS DISEASES IN PREGNANCY

Through the following outline we have attempted to develop a reasonable approach to the diagnosis of our case:

1. Transmission of infection to the fetus.
2. Vaccination in pregnancy with reference to fetal immunity.
3. Variola in pregnancy, a review of forty-seven reported cases.
4. Pemphigoid vaccinia, a study of postvaccinal eruptions.
5. Report of a case believed to be fetal pemphigoid vaccinia.

Transmission of Infection to the Fetus.—The apparent transfer of disease from mother to fetus was noted by the founders of medicine. Hippocrates was familiar with malaria in the new-born and considered it congenital in some instances. Düttel, in 1702, knew something of the relation of variola to pregnancy and the fetus.[4] He also gave a brief description of congenital rubeola. Watson [29] stated that the fetus "was liable to be infected at a very different time and in a very different manner from the mother" with variola. Roberts made note of syphilis and the acute exanthems. Until the work of Pasteur and Koch knowledge of transfer of infection was gained by inference and hypothesis. Proof of the pathogenicity and specificity of bacteria and other microorganisms laid the foundation for exhaustive and often contradictory experimental studies on the transfer of infection through the placenta.

The infectious diseases commonly seen in pregnancy are: syphilis, tuberculosis, malaria, recurrent fever, pneumonia, meningitis, typhoid fever, yellow fever and the exanthems. The relatively low incidence of the exanthems is obviously based on the frequency of these diseases in childhood with consequent immunity and on the success of vaccination. That the maternal prognosis is made worse by pregnancy is the impression, but is difficult to prove because of seasonal and epidemic variations in the severity of these diseases. A part of the increased mortality may certainly be attributed to the tendency to premature termination of the pregnancy with the associated loss of blood and added avenue for infection. Fetal mortality is high. The influences that infectious disease may exert on the embryo or fetus are several: (1) disturbances in the maternal metabolism, (2) pathologic changes in the uterus or placenta and (3) actual infection. The possibility of placental transfer of infectious disease was the subject of exhaustive studies in the last quarter of the nineteenth century. More recently syphilis and tuberculosis have been the subjects for study. All authors have agreed that actual infection of the fetus by variola has been established on clinical observations.

29. Watson, W.: Some Accounts of the Fetus in Utero, Being Differently Affected by the Small Pox, Phil. Tr., London **46**:693, 1749.

Runge [30] believed that the transfer of infection played a minor rôle in influences on the fetus. His observations indicated that maternal fever over 104 F. (40 C.) is of definite danger to the fetus and that 108.5 F. (42.5 C.) is fatal. His experimental studies on rabbits showed that a temperature of 106.7 F. (41.5 C.) for a short time was sufficient to kill the fetus. (The normal temperature of the rabbit lies between 38 and 39 C.) He discussed the metabolic requirements of the human fetus and quoted authority for the belief that the fetal requirements for oxygen, even though minimal, soon result in a deficiency when the maternal balance is disturbed. Koubassoff,[31] working under Pasteur, believed that he had demonstrated the transfer of infection from mother to fetus. Wolff [32] was unable to find the anthrax organism in seventeen guinea-pig and rabbit fetuses from infected mothers. He believed the same to be true of tuberculosis and stated that Virchow had not yet seen a case in which congenital infection with tuberculosis had been demonstrated. Lehmann's [33] case of a child, who died twenty-four hours after birth, showing generalized lesions of miliary tuberculosis, is one of many arguments for the transmission of this disease. The accepted opinion today is that tuberculosis is rarely if ever transferred from mother to fetus through the placenta.

Erysipelas is a serious complication of pregnancy. Wardwell [34] observed twenty-five cases, only one of which proceeded to term; in most instances the pregnancy was terminated within twenty-four hours of the first chill. The clinical course and appearance of this disease are such that a diagnosis in the new-born is difficult. Bidone's [35] case is of interest. Examination of a child who died nineteen hours after birth showed vegetations on the mitral and tricuspid valves and incipient glomerulonephritis. Bacteria were found which culture and inoculation proved to be the streptococci of erysipelas.

Schadow [36] recently reported an oddity: A woman therapeutically inoculated with malaria later gave birth to a child who in the third week of life developed signs and symptoms of malaria with laboratory con-

30. Runge, M.: Die acuten Infectionskrankheiten in ätiologischer Beziehung zur Schwangerschaftsunterbrechung, Samml. klin. Vortr., vol. 174, p. 1367.

31. Koubassoff, quoted by Wolff, M.: Virchows Arch. f. path. Anat. **105**:192, 1886.

32. Wolff, M.: Ueber erbliche Uebertragung parasitärer Organismen, Virchows Arch. f. path. Anat. **105**:192, 1886.

33. Lehmann: Weitere Mitteilungen über Placentatuberculose, Berl. klin. Wchnschr. **31**:646, 1894.

34. Wardell, W. L.: Case of Erysipelas Complicating Pregnancy, Am. J. M. Sc. **87**:349, 1884.

35. Bidone: Teratologia **1**:182, 1894.

36. Schadow, H.: Impfmalaria als Ursache kongenitaler Malaria, München. med. Wchnschr. **78**:947, 1931.

firmation of the diagnosis. The indication of uterine transfer lies in the apparent proof that therapeutic strains of malaria lack gametes and require direct inoculation for transfer of the infection.[37]

Klautsch [38] discussed the influence of various infectious diseases on the fetus, emphasized the conflict of opinions and stated his belief that direct transfer was possible under certain conditions (not defined), although he believed it much less important than the fetal disturbance caused by metabolic changes and pathology of endometrium or placenta. Lubarsch was of the same opinion,[39] which is generally accepted today.

The incidence of varicella, rubeola and scarlatina in pregnancy is even lower than that of variola. This accounts for the smaller number of infants reported to have been born with evidence of these diseases. Apparently authentic cases of varicella in utero have been reported by Grindon [40] and Pridham.[41]

Ballantyne [42] reported a case of rubeola and reviewed twenty additional cases. Others have been reported by Fiori, Gibson, Keel, King and Kincaid. The differences between the course of this disease and that of variola are chiefly: (1) the mother rarely escapes manifestations of the disease; (2) the course of the infection is simultaneous in mother and fetus; (3) the fetus rarely lives.

The establishment of a diagnosis of scarlatina in a new-born infant is difficult because of the multitude of erythematous and scaling eruptions at that stage of life. Ballantyne [43] collected fourteen cases. He commented on the absence of eruption in the mother in the cases of Tortual and Cordes, and emphasized the fact that the child must be born alive to justify a diagnosis. In most cases the course was parallel in mother and child.

Weiss,[44] among others, reported the appearance of a macular eruption on the trunk and extremities of a 6 months fetus aborted by a woman suffering from typhus fever. He mentioned additional cases observed

37. Dattner, B., and Kauders, O.: Malariatherapie, Vienna, Franz Deuticke, 1927.

38. Klautsch, A.: Die acuten Infectionskrankheiten in ihrer Wirkung auf die Schwangerschaft, München. med. Wchnschr. **41**:1049, 1894.

39. Lubarsch, O.: Ueber die intrauterine Uebertragung pathogener Bakterien, Virchows Arch. f. path. Anat. **124**:47, 1891.

40. Grindon, J.: Apparent Case of Varicella in Utero, J. Cutan. Dis. **19**:237, 1901.

41. Pridham, F. C.: Chicken Pox During Intrauterine Life, Brit. M. J. **1**:1054, 1913.

42. Ballantyne, J. W.: Congenital Measles with Report of a Case, Arch. Pediat. **10**:301, 1893.

43. Ballantyne, J. W., and Milligan, D.: Case of Scarlet Fever in Pregnancy with Infection of the Fetus, Edinburgh M. J. **39**:13, 1893.

44. Weiss, M.: Ueber das Wesen der sogenannten spontanen Nabelblutung der Neugeborenen, Prag. med. Wchnschr. **4**:289, 1879.

by Manzini and Scanzoni. Examination of the fetus showed changes in the intestinal tract which might have been expected in typhoid fever. In all the older literature the distinction between the two diseases is not clear. Now that laboratory methods allow an exact differential diagnosis, the diseases are passing out of existence in those countries from which most medical literature comes.

Vaccination in Pregnancy.—Of greater interest in this study was the effect of vaccinia (vaccination) and variola on pregnancy and the fetus. Bollinger [45] wrote the first comprehensive article on the passage of vaccinal immunity from mother to fetus. He stated that experience had shown the variola virus to be transmitted to the fetus in the majority of cases and that the blood of the person vaccinated was known to contain the vaccine virus in a diluted form. He quoted Underhill's failure to vaccinate successfully a child born of a woman vaccinated during pregnancy.[46] He believed that the usual number of failures (estimated at 5 per cent) in primary vaccinations was due to prenatal transfer of immunity. He based further arguments on the results of experimental studies on sheep-pox. Reasoning from these beliefs, he concluded that vaccination of the pregnant woman would protect the unborn child against variola and that the child would be insusceptible to vaccination. Burckhardt [47] agreed with Bollinger. Morawetz,[48] Chambrelent and Franz and Kuhner [49] believed that immunity of some degree was frequently transmitted to the fetus. Perrould [50] reported a case similar to that of Underhill. Piery's [51] observations supported Bollinger's belief in transfer of immunity, but found a higher immunity if vaccination of the mother had taken place in childhood. Kollock [52] repeatedly failed to vaccinate twenty-one of thirty-six infants of mothers vaccinated during pregnancy. He believed that the immunity was greater when vaccination had taken place after the eighth month.

Gast [53] disagreed with Bollinger, quoting Franque's observation of

45. Bollinger: Ueber Menschen- und Thierpocken, über den Ursprung der Kuhpocken und über intrauterine Vaccination, Samml. klin. Vortr., vol. 116, p. 1021.

46. Underhill, A. S.: Influence of Vaccination on the Fetus in Utero, Brit. M. J. **2**:811, 1874; **2**:928, 1879.

47. Burckhardt, quoted by Palm, H.: Arch. f. Gynäk. **62**:348, 1901.

48. Morawetz, G.: Variolerkrankungen bei Neugeborenen, Wien. med. Wchnschr. **71**:321, 1921.

49. Franz and Kuhner, quoted by Morawetz (footnote 48).

50. Perrould, quoted by Palm, H.: Arch. f. Gynäk. **62**:348, 1901.

51. Piery: Note statistique sur l'immunité vaccinale et sa transmission intra-utérine, Lyon méd. **94**:37, 1900.

52. Kollock, C.: Protective Influence of Vaccination During Intra-Uterine Life, Am. J. Obst. **22**:1078, 1889.

53. Gast, A.: Experimentelle Beiträge zur Lehre von der Impfung, Schmidt's Jahrb. **183**:201, 1879.

forty-eight pregnant women with variola, none of whose children showed evidence of an eruption. Hebra had nine and Wagner four similar cases. Curschmann,[54] Welch [55] and Eimer [56] were of the same opinion. Gast refused to accept the experiments on sheep-pox as applicable to variola or vaccinia. Krieger's observation of one thousand primary vaccinations without a failure weaken Bollinger's argument.

In an effort to justify his beliefs, Gast successfully vaccinated sixteen women, most of whom were in the eighth or ninth month of pregnancy. The children were vaccinated in the first nine days of life, all attempts being unsuccessful. He further observed that vaccination of the new-born was afebrile and accompanied by less local reaction than when performed later. This is supported by Palm's observations.

Behm [57] successfully vaccinated thirty-three women in the last three months of pregnancy and their infants in the first six days of life. Seven required more than one attempt, and one of these may have been immune. He concluded that intra-uterine transmission of vaccinal immunity may be possible, is by no means certain, and must be rare. Wolff [58] successfully vaccinated seventeen women from six to seventy-eight days before delivery and their infants in the first six days of life. He also disagreed with Bollinger's statement as to vaccination failures, holding that improvements in technic had brought the number of failures down to 0.5 per cent. Gast, Behm, Wolff, Piery [51] and Friedberg [59] found no disturbance of the pregnancy as a result of vaccination.

Palm [60] reviewed the earlier work and vaccinated fifteen children whose mothers had been vaccinated at least six days before delivery. He failed on two children, one of whom was born of a mother whose vaccination had not been successful. A control group of fourteen children born of unvaccinated mothers was successfully vaccinated. In subsequent work with forty-three children born of mothers successfully vaccinated from six to one hundred and fifteen days before delivery, thirty-seven were successfully vaccinated on the first attempt. Three of the failures were known to be due to poor lymph. On revaccination

54. Curschmann, in Ziemssen: Handbuch der speciellen Pathologie und Therapie, Leipzig, F. C. W. Vogel, 1878, vol. 2, p. 305.

55. Welch, W. M.: Small Pox in the Pregnant Woman and in the Fetus, Philadelphia M. Times **8**:390, 1877-1878.

56. Eimer, quoted by Gast (footnote 53).

57. Behm, C.: Ueber intrauterine Vaccination, Ztschr. f. Geburtsh. u. Gynäk. **8**:1, 1882.

58. Wolff, M.: Ueber Vererbung von Infectionskrankheiten, Virchows Arch. f. path. Anat. **112**:136, 1888.

59. Friedberg, quoted by Palm, H.: Arch. f. Gynäk. **62**:348, 1901.

60. Palm, H.: Beitrag zur Vaccination Schwangerer, Wochnerinnen, und Neugeborenen, Arch. f. Gynäk. **62**:348, 1901.

there was still one failure. Following the fourth attempt this child was no longer under observation, but the mother stated that the vaccination had "taken."

To summarize, the vaccination of pregnant women seldom transmits immunity to the fetus and rarely disturbs the pregnancy.

VARIOLA IN PREGNANCY

Variola is a serious complication of pregnancy. Several attempts have been made to show a greater mortality rate in the pregnant than in the nonpregnant woman.[61] Other authors have noted the occurrence of the more severe forms of the disease in the pregnant woman.[62] Welch [55] provided a summary of forty-six cases of variola in pregnancy; fourteen of these patients died. In twenty-six women the pregnancy was known to have terminated prematurely. Of the twenty-eight fetuses observed, two showed evidence of an eruption.

Contrary to Bollinger's belief, the occurrence of intrauterine variola is uncommon. We have met with considerable difficulty in a study of those cases which have been reported. Most of the reports have been entirely inadequate as to history and description; many have been lost in minor and long forgotten journals.

It is quite certain that variola in the pregnant woman exerts an influence on the fetus in many cases in which this is not apparent. Studies on later vaccination of such children are contradictory. Rigden,[63] Davidson [64] and Cowie and Forbes [65] were successful in their attempts, although the children frequently seemed to be immune during the first months of life. The opposite opinion was held by Marsden [66] and Robinson.[67]

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61. (*a*) Vinay, C.: Vaccine et variola au cours de la grossesse, Lyon méd. **93**: 397, 1900. (*b*) Richardiere: La variola pendant la grossesse, Arch. de tocol. et de gynec. **20**:611, 1893; abstr., Jahresb. ü. d. Fortschr. Geburtsh. u. Gynäk. **7**:477, 1893. (*c*) Vogt, L.: Ueber den Einfluss der Pockenkrankheit auf Menstruation, Schwangerschaft, Geburt, und Fetus, Samml. klin. Vortr. **112**:249, 1894-1897. (*d*) van der Willigen, A. M.: Pokken in der Zwangerschap, Nederl. tijdschr. v. geneesk. **1**:497, 1895; abstr., Jahresb. ü. d. Fortschr. Geburtsh. u. Gynäk. **9**:547, 1895.

62. (*a*) Lelievre, E.: Thèse de Paris, 1902; abstr., Jahresb. u. d. Fortschr. Geburtsh. u. Gynäk. **17**:697, 1903. (*b*) Queirel: Variole et grossesse, Ann. de gynéc. et d'obst. **4**:137, 1907. (*c*) van der Willigen (footnote 61*d*).

63. Rigden, G.: Influence of Maternal Small Pox on the Fetus, Brit. M. J. **1**:229, 1877.

64. Davidson, W.: Small Pox in Utero, Lancet **2**:628, 1837-1838.

65. Cowie, J. M., and Forbes, D.: Intrauterine Influence of the Fetus in Small Pox, Brit. M. J. **1**:1485, 1904.

66. Marsden, J. P.: Metastatic Calcification: Notes on Twins Born Shortly After an Attack of Smallpox in the Mother, Brit. J. Child. Dis. **27**:193, 1930.

67. Robinson, H.: Occurrence of Confluent Small Pox at the Seventh Month of Pregnancy, Brit. M. J. **1**:163, 1877.

The statistics of Welch,[55] Queirel,[62b] van der Willigen [61d] and Sangregario [68] show that pregnancy is frequently terminated prematurely. This may occur: (1) during the height of the maternal toxemia; in such cases the fetus shows no cutaneous involvement and the fetal mortality depends on the maternal toxemia and the viability as determined by age and weight; (2) at a later date, usually from two to five weeks after the appearance of the maternal eruption; the intervening period allows for development of the eruption in the fetus. The fetus may be dead for some time before it is expelled.

The only review of fetal variola which we have found was by Margoulieff,[69] who reviewed fourteen cases and added two. We are presenting forty-seven cases in which a pustular eruption or the scars of such an eruption were present at birth. The observations in many cases do not allow them to be included in each summary, but are of some value in arriving at the final conclusions. Few authors distinguish between lunar and calendar months, and their calculations must be taken for what they are worth. No attempt has been made to study those cases in which the eruption appeared after birth but within that time usually allowed for the incubation period.

As to the maternal state of immunity, three were known to have had variola previous to the pregnancy, ten had previously been vaccinated, and four had not. These data are so incomplete that no conclusions are justified.

The mortality rate may not be judged from our series because many fatal cases terminate before the fetus is expelled and thus are not included in this series. In twenty-two cases in which the outcome was known, two patients died, seven went through a severe and ten through a mild form of the disease, and three suffered from prodromal symptoms only. Eleven women were exposed to the disease but suffered no symptoms and later gave birth to infected infants.

Thirty-seven cases showed the onset to occur in each month after the third. The average was 6.1, and the median lay in the sixth month. Of the thirty-eight patients in whom the effect on the pregnancy is definitely known, only eight proceeded to term. In the others the pregnancy terminated from one to twelve weeks after the appearance of the maternal eruption. The average was 4.4, and the median was in the fourth week.

In forty-six cases in which the babies' condition was known, twenty-six were stillborn, and of the twenty born alive, eleven later died.

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68. Sangregario: Vaiuolo e gravidanza, Morgagni **29**:793, 1887; abstr., Jahresb. ü. d. Fortschr. Geburtsh. u. Gynäk. **2**:105, 1888.

69. Margoulieff: Thèse de Paris, 1889; abstr., Jahresb. ü. d. Fortschr. Geburtsh. u. Gynäk. **4**:140, 1890.

Some of these fetuses had not reached the stage of viability. Of those delivered at or about term, five remained alive; of those born between the beginning of the seventh month and term, five were born alive, one of whom remained alive. The total mortality in this series was 81 per cent. Van der Willigen [61d] found a total mortality of 45 per cent for the fetus without eruption.

Of eight cases proceeding to term, the onset was in the fifth month in one, the seventh in two and the ninth in the remaining known cases. Five of these infants were born of mothers who had been exposed but did not suffer from variola during pregnancy because of immunity gained through previous disease or vaccination.

The factors of individual variation may be emphasized by referring to those cases involving twin pregnancies. Davis' [70] case resulted in a normal infant and a dead scarred fetus. Ayer's [71] resulted in a dead scarred fetus and an infant covered with a pustular eruption; this child died in two hours. Warner's [72] resulted in two dead fetuses with pustular eruptions. Chantreuil [73] observed two stillborn infants only one of whom had a pustular eruption. Fumé [74] saw one infant alive and normal, the other dead and covered with a pustular eruption. Marsden [66] observed one jaundiced and living infant; the other had a pustular eruption and died of sepsis eighteen days after birth.

Pemphigoid Vaccinia.—The complications and sequelae of vaccination have long provided material for the antivaccination group. That such complications have occurred cannot be denied. Improvements in technic in recent years have prevented the spread of the chronic infectious diseases and reduced the incidence of local secondary infection. There remain certain complications which seem to be unavoidable; the most serious is encephalitis.[75] Cutaneous generalized vaccinia is more common and may be associated with the former.[76]

Opinions vary as to the incidence of postvaccinal eruptions. Schamberg [77] stated that he had seen five generalized vesicular or bullous eruptions in fifteen years; Brayton [78] six or seven in forty-thousand cases; Chauveau the same number in five hundred thousand vaccinations;

70. Davis, quoted by Streeter: Lancet **1**:611, 1838.

71. Ayer, J.: Congenital Variola in Twins, Boston M. & S. J. **44**:397, 1851.

72. Warner, A.: Small Pox in the Fetus, Lancet **2**:95, 1903.

73. Chantreuil: Bull. Soc. anat. de Paris **45**:248, 1870.

74. Fumé, E.: Effets de la petite vérole sur deux fœtus, J. de méd. **10**:403, 1759.

75. Armstrong, C.: Post-Vaccination Encephalitis, Ann. Int. Med. **5**:333, 1931.

76. Weichsel, M.: Encephalitis and Generalized Eruption Following Vaccination, Monatschr. f. Kinderh. **49**:1, 1931.

77. Schamberg, in discussion of Mook, W. H.: J. Cutan. Dis. **33**:667, 1915.

78. Brayton, in discussion of Mook, W. H.: J. Cutan. Dis. **33**:667, 1915.

Hastud four in forty thousand; Vogt five in one hundred thousand,[79] and Wolff [58] none in seven thousand. Mook was able to report eight cases. Walker [80] reported five cases of postvaccinal erythema multiforme, one of which was difficult to distinguish from variola; Eichenlaub [81] reported seven similar cases. Gans [82] and Seier [83] have reported the clinical and pathologic findings in such a case. The most important points were reticular degeneration and some bodies resembling those described by Guarnieri.[84]

The etiologic factor in the production of these eruptions is not understood. Seier pointed out that they usually follow the primary vaccination. Jochmann [85] expressed the belief that they may occur even when the vaccination is not successful. It has been suggested that they may be due to a vaccine toxin or to some antibody which the patient produces. It has been fairly well determined by clinical observation that such eruptions are not due to any characteristic of the individual strain of virus. Hoof and mouth disease in man is known to exhibit vesicles and pustules on the skin and mucous membranes; Bowen observed a case of acute septic pemphigus in a butcher during an epidemic of hoof and mouth disease; [86] Tyzzer [87] suggested a relationship between vaccinal eruptions and hoof and mouth disease.

Stelwagon [88] reported a classification of postvaccinal eruptions, following the earlier work of Morris [89] and Frank.[90] We present it with slight modifications:

I. Due to pure vaccine inoculation
  1. Local secondary reactions
    Erythema, dermatitis, herpetica, vaccinia
  2. Early generalized eruptions (two to three days)
    Urticaria, erythema multiforme, bullous eruptions

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79. Chauveau, Hastud and Vogt, quoted by Rolleston, J. D.: Acute Infectious Diseases, Brooklyn, Physicians and Surgeons Book Company, 1925, p. 359.

80. Walker, N.: Erythema Multiforme and Vaccination, Brit. M. J. **1**:1201, 1901.

81. Eichenlaub, F. J.: Erythema Multiforme Complicating Vaccination, South. M. J. **19**:186, 1926.

82. Gans, O.: Zur Aetiologie der postvaccinalen Exantheme, Klin. Wchnschr. **8**:1444, 1929.

83. Seier, P.: Zur Aetiologie und Pathogenese der postvakzinalen Exantheme, Dermat. Wchnschr. **89**:1511, 1929.

84. Guarnieri, G., quoted by Councilman, W. T.: Ueber die Parasiten der Variola und der Vakzine, Centralbl. f. Bakt. **16**:894, 1891.

85. Jochmann, quoted by Seier (footnote 83).

86. Bowen, J. T.: Acute Infectious Pemphigus, J. Cutan. Dis. **22**:253, 1904.

87. Tyzzer, quoted by Bowen (footnote 86).

88. Stelwagon, H. W.: Concerning Some Vaccinal Eruptions, J. A. M. A. **39**:1291 (Nov. 22) 1902.

89. Morris, M.: Discussion of Vaccinal Eruptions, Brit. M. J. **2**:1229, 1890.

90. Frank, L.: Complications of Vaccination, J. Cutan. Dis. **13**:142, 1895.

3. Later generalized eruptions
   Roseola, erythema, purpura, generalized vaccinia

II. Due to mixed inoculation
   1. Contamination at the time of inoculation
      Erythema, impetigo, syphilis (?), leprosy (?), tuberculosis (?)
   2. Contamination of the vaccinal lesion
      Erysipelas, cellulitis, furunculosis, pyemia, gangrene, tuberculosis cutis

III. Sequelae
   1. Urticaria, eczema, scleroderma, psoriasis, pyoderma, dermatitis herpetiformis, pemphigus

We shall consider only the vesicular and bullous eruptions; in this group there has been confusion concerning bullous impetigo, erythema multiforme, dermatitis herpetiformis and pemphigus. The discussion of mixed inoculation is of no interest in the consideration of our case. The appearance of an eruption following vaccination does not prove a relationship, though it may not be denied (scleroderma, chronic urticaria, psoriasis).

Mook [91] reviewed the reported cases of vesicular and bullous eruptions and added eight. He thought that the mortality was increasing, the incubation period was becoming prolonged, and the general symptoms had been more marked in recent years. Variations in the incubation period are recognized. Mook and Conrad [92] agreed that such eruptions may appear from ten to ninety days after vaccination; the average appears to be three or four weeks. The clinical course varies to the same degree. Eruptions of the acute vesicular or bullous type have been recorded by Schamberg and Keech,[93] Bowen,[94] Simpson,[95] Howe,[96] Mook,[91] Allen,[97] Stelwagon [88] and Abramowitz.[98] Those reported by Howe were severe; of nine cases following vaccination, six were fatal. Chronic recurrent vesicular and bullous eruptions resembling dermatitis herpetiformis have been reported by Corlett,[99]

91. Mook, W. H.: Pemphigoid Eruptions Following Vaccination, J. Cutan. Dis. **33**:667, 1915.

92. Mook and Conrad, in discussion of Davis (footnote 70).

93. Schamberg and Keech, quoted by Stelwagon (footnote 88).

94. Bowen, J. T.: Six Cases of Bullous Dermatitis Following Vaccination, J. Cutan. Dis. **19**:400, 1901.

95. Simpson, C. A.: Annular Serpiginous Bullous Eruption Complicating Vaccination, M. Rec. **86**:920, 1914.

96. Howe, J. S.: Cases of Bullous Dermatitis Following Vaccination, J. Cutan. Dis. **21**:254, 1903.

97. Allen, C. W.: Case of Vaccinia, J. Cutan. Dis. **19**:385, 1901.

98. Abramowitz: Duhring's Disease Following Vaccination (Smallpox and Typhoid), Arch. Dermat. & Syph. **6**:229 (Aug.) 1922.

99. Corlett, W. T.: Postvaccinal Eruptions, J. Cutan. Dis. **22**:495, 1904.

Shelmire,[100] Williams,[101] Davis (three cases),[102] Stelwagon,[88] Abramowitz,[98] Pusey,[103] Dyer [104] and Galloway.[104]

Martin [105] described an interesting case. The mother of a 7 months old infant was revaccinated, followed by pruritus, erythema and areola; development did not quite reach the stage of vesiculation. At sixteen days the crust had disappeared; during this period the infant had gone to the breast as usual, and a generalized eruption consisting of "at least four hundred" umbilicated vesicles which desiccated rapidly developed. A heifer was successfully inoculated with fluid from the lesions. The possibility of contact transfer of the virus from mother to child cannot be ruled out, but no primary lesion was observed.

Case Believed to be Fetal Pemphigoid Vaccinia.—This case was observed during an epidemic of variola.

A white woman, aged 27, gave the date of her last menstrual period as July 6, 1924. Three previous pregnancies had been normal throughout; the children were born at term and were living and well. About December 11, this woman was vaccinated because of an epidemic, with a successful result. During the last few days of December she complained of chills and fever, followed on January 7 by abdominal pain and vaginal bleeding. No eruption had been noted; she had taken no drugs. After a labor of five hours the infant was delivered alive, but soon died. The amniotic fluid was described as excessive. The placenta was studded with white flecks. The puerperium was uneventful.

Examination of the infant showed a girl; the age, 6 calendar months, was calculated by the formula of Scammon and Calkins. The weight was 600 Gm.; the crown-rump length was 19 cm. There was a generalized eruption consisting of raised circular plaques with central depression. These lesions were discrete and confluent, varying from 4 to 20 mm. in diameter. Flaccid bullae were present on the face and extremities. Removal of the loosely attached epidermis showed an erythematous base. Examination of the pleural and peritoneal cavities showed no gross pathologic changes except a number of round yellow areas on the surface of the liver. These were from 2 to 3 mm. in diameter and extended not more than 1 mm. below the serous surface of the liver.

Microscopic examination showed pulmonary atelectasis and a normal spleen, pancreas and kidneys. There were peripheral areas of necrosis in the liver; the cellular outline was indistinct; the nuclei stained poorly, and an infiltrate of lymphocytes and polymorphonuclear leukocytes was present in all the liver spaces.

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100. Shelmire, J. B.: Pemphigoid Eruptions Following Vaccination, Texas State J. Med. **13**:358, 1918.

101. Williams: A Case of Postvaccinal Pemphigus, Arch. Dermat. & Syph. **14**:358 (Sept.) 1926.

102. Davis, R. H.: Postvaccinal Pemphigus, Arch. Dermat. & Syph. **8**:246 and 255 (Aug.) 1923; A Case of Postvaccinal Pemphigus, ibid. **9**:412 (March) 1924.

103. Pusey, W. A.: A Case of Dermatitis Herpetiformis Following Vaccination, J. Cutan. Dis. **15**:158, 1897.

104. Dyer, quoted by Mook (footnote 91).

105. Martin, in Allbutt, T. C., and Rolleston, H. D.: System of Medicine, New York, The Macmillan Company, 1906, vol. 2, p. 683.

Levaditi stains of the liver, lungs and suprarenal glands showed no spirochetes. The Wassermann reaction of the blood of the mother was negative.

Sections of skin were examined microscopically. They showed vesiculation in varying degrees throughout the entire width of the sections. At all points the vesiculation was intradermal, the single vesicle becoming much smaller at the borders of the bulla. There was marked edema of the entire thickness of the skin. The rete pegs were acanthotic, associated with spongiosis, and the epidermal cells showed evidence of ballooning degeneration. The larger vesicles showed a reticular bridging of the spaces, which contained coagulated serum and an exudate

Fig. 1.—Six months fetus born four weeks after vaccination of the mother.

of lymphocytes, polymorphonuclear leukocytes and red blood cells. There was massive infiltration of the corium associated with widely dilated vessels, which were congested, containing many leukocytes in addition to the red blood cells; many of the latter were nucleated forms owing to the immaturity of the fetus.

Photographs and sections of the skin of this fetus were demonstrated at a meeting of the Chicago Dermatological Society on Jan. 21, 1925.[106] Pathologic studies were reported at a meeting of the Minnesota Pathological Society on March 17, 1931.

106. Michelson, H. E.: Erythema Multiforme in Six Months' Fetus, Arch. Dermat & Syph. **12**:417 (Sept.) 1925.

The essentials of the cutaneous histopathology of variola have been investigated by Pfeiffer, Guarnieri, Councilman and others. More recently they have been reviewed, described and evaluated by Michelson and Ikeda.[107] At the height of development there is seen a pustule which has gone through the stages of edema, ballooning degeneration (Unna) and multilocular vesicle formation, followed by infiltration with polymorphonuclear leukocytes. The changes in vaccinia are of the same order, but are not so marked. Prudden expressed the belief that this is due to a difference in the cycle of development of the "vaccine bodies."

Fig. 2.—Lesion of the skin of the fetus, characterized by edema, vesiculation, cellular infiltrate and congested vessels.

Kolmer demonstrated that a closer relationship exists between vaccinia and variola than was formerly believed. At one time two distinct viruses were claimed.

Lillie[108] recently reviewed the pathology of variola completely. Greenway[109] described the microscopic observations in intra-uterine variola.

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107. Michelson, H. E., and Ikeda, Kano: Microscopic Changes in Variola, Arch. Dermat. & Syph. **15**:138 (Feb.) 1927.

108. Lillie, R. D.: Smallpox and Vaccinia, Arch. Path. **10**:241 (Aug.) 1930.

109. Greenway, A. S.: Congenital Small Pox Verified by Microscopic Examination, Brit. M. J. **1**:848, 1880.

Cloudy swelling, fatty degeneration, focal necrosis, hemorrhages and bacterial thrombi have been found in the liver of patients dying from variola. Gaucher described flecking of the surface of the liver with foci of fatty degeneration in a fatal case of vaccinia. Turnbull and McIntosh [110] found focal necrosis in the liver of a child who had died of postvaccinal encephalitis.

A review of the following cases may be of interest and may aid in establishing a diagnosis in our case. Examples of intra-uterine variola

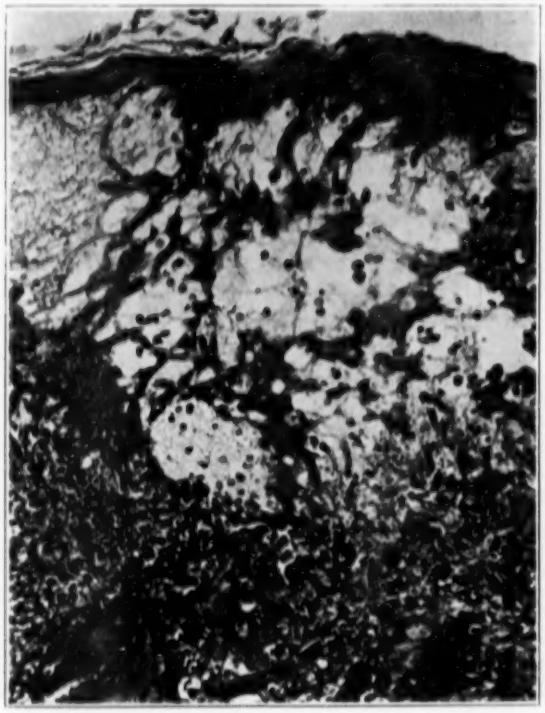

Fig. 3.—Details of reticular formation of vesicle.

are known; the existence of intra-uterine vaccinia has been denied. Ballantyne stated that no infant had been born with a vaccine pustule.[8]

Jenner [111] observed a woman who was vaccinated in the eighth month of pregnancy. The absence of fetal motion was noted twenty-three days later, and at five weeks a stillborn fetus was delivered. There were present about thirty pustules on erythematous bases.

110. Turnbull, H. M., and McIntosh, J.: Encephalomyelitis Following Vaccination, Brit. J. Exper. Path. **7**:181, 1926.

111. Jenner, E.: Two Cases of Small Pox Infection Communicated to the Fetus in Utero Under Peculiar Circumstances, Med.-Chir. Tr., London **1**:271, 1809.

Tellegen,[112] during an epidemic of "severe varioloid," observed a woman who had not been previously vaccinated whose husband suffered from the disease; she was vaccinated in the ninth month of pregnancy; both pregnancy and vaccination pursued a normal course. Three weeks later she was delivered of an otherwise healthy child with about forty pustules scattered over the body; additional lesions developed during the first twenty-four hours of life. Vesicular lesions were observed

Fig. 4.—Patient with pemphigoid vaccinia, shown through the courtesy of Drs. M. F. Engman and W. H. Mook.

on the oral mucous membranes. The disease followed a toxic and febrile course; healing and recovery occurred gradually. In the following year an attempt at vaccination of the child was unsuccessful.

Siebold [113] observed a child born eight days after vaccination of the mother. Pustules of the same number and stage of development were present on the arm of the infant as on that of the mother.

112. Tellegen, R. J.: Natürliche Pocken bei einem Neugeborenen, Schmidt's Jahrb. **84**:329, 1854.

113. Siebold, quoted by Behm (footnote 57); quoted by Gast (footnote 53).

McSherry [114] stated that Stewart had told him of a case in which a woman in her eighth month of pregnancy was vaccinated following exposure to variola. She escaped the disease, but two weeks later gave birth to a child covered with confluent pustules; the child died within an hour.

Aulsebrook [115] described a woman who was successfully vaccinated during an epidemic. Five weeks later she was delivered of a child presenting "spots" on the face, neck, abdomen and back. There was a single lesion on the tongue; pustules were observed on the face and hands. This child died on the third day.

Fig. 5.—Five months fetus born of a woman exposed to variola during an epidemic. She had been successfully vaccinated in childhood. The photographs accompanied a review and case report by Puig y Roig. Photograph by Jaime Peyri of the Facultate de Medicin and Hospital Clinico, Barcelona, Spain.

Legros [116] described a woman who had recently been vaccinated, as she had had intercourse with a patient convalescing from variola. She underwent a normal pregnancy until the fifth month, at which time a fetus with a papular and pustular eruption was delivered.

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114. McSherry, R.: Vaccination and Small Pox in Regard to Child-Bearing Women and the Fetus in Utero, Am. J. M. Sc. **26**:549, 1853.

115. Aulsebrook, R.: Small Pox Occurring in the Fetus in Utero, Lancet **2**: 189, 1854.

116. Legros: Gaz. méd. de Paris **20**:493, 1865.

Franklin [117] observed a woman who had been successfully vaccinated when seven and one-half months pregnant at the time that her husband had variola. The woman suffered no symptoms and presented no eruption; about six weeks later a macerated fetus was delivered, and umbilicated pustular lesions about one-fourth inch (6 mm.) in diameter were observed.

Rothwell [118] saw a woman who was successfully vaccinated at the third month of pregnancy following exposure during an epidemic of a disease that he believed to be mild variola. Ten weeks later she aborted a stillborn fetus with round, yellow, slightly pitted scars "about the size of the end of a lead pencil." In addition to these lesions there was a generalized vesicular and pustular eruption.

All these cases were regarded as examples of intrauterine variola. The interpretation of these cases as well as our own is made difficult by the presence of two possible etiologic factors: the exposure of the woman to variola and successful vaccination. It is known that women exposed to variola and not recently vaccinated may give birth to infants with pustular eruptions without the mother showing any evidence of disease. Vaccination of adults is usually carried out only in the presence of exposure to infection. In the cases of Jenner, Siebold and ourselves there is no mention of definite exposure to the disease, although it may have taken place. The incubation period is of no aid in diagnosis; there is wide variation in cases of intra-uterine variola and also in bullous vaccinia. For similar reasons the severity of the toxemia is of no aid. The eruption of pemphigoid vaccinia closely resembles that of fetal variola, as is shown by photographs of Mook's and Puig y Roig's [119] cases. The eruption in our own case may not be distinguished from either. Histopathology of variola and vaccinia does not differ in essentials. When either of two known factors is capable of producing similar or identical eruptions and in the absence of more exact aids to diagnosis (inoculation studies), the decision is largely a matter of opinion.

COMMENT

We have reviewed the field of congenital cutaneous diseases and anomalies in an attempt to determine what conditions must be considered in the differential diagnosis of a bullous eruption in the fetus. We believe that syphilis can be disregarded in our case on the negative history, negative serology in the mother and the pathologic findings. Epidermolysis bullosa can be ruled out on the absence of a familial tendency, the appearance of the individual lesions and the absence of

117. Franklin, J. H.: Case of Small Pox in the Fetus, M. Rec. **64**:377, 1903.

118. Rothwell, W. A.: Small Pox in Utero, Northwest Med. **16**:265, 1917.

119. Puig y Roig, P.: Cas de variole foetale sans variole maternalle, Gynéc. et obst. **6**:176, 1922.

associated anomalies of epidermal origin. Pemphigus congenitus has a different course, usually benign, and shows no umbilication. The microscopic pathologic changes in our case definitely establish it as belonging to that group characterized by "ballooning" and reticular degeneration. With this point in mind we reviewed the relation of the infectious diseases, particularly the exanthems, to pregnancy and the fetus.

We found the transmission of these diseases to the fetus to be possible though not common. The available literature on intra-uterine variola was studied in detail with particular reference to the maternal history, the incubation period and the course of the disease in the fetus. We found that the fetus may be infected, or at least a fetal eruption may be present, even when the mother has had no symptoms or eruption but has been exposed to the disease.

The average time from the appearance of the maternal eruption to birth of the infant was four and four-tenths weeks.

The factors of individual variation were emphasized by reference to the occurrence of intra-uterine variola in twin pregnancies.

Studies on vaccination in pregnancy and the transfer of immunity to the fetus were reviewed. It was found that vaccination seldom influences the course of pregnancy and probably does not transfer immunity to the fetus. With the vaccine virus known to be present in the maternal blood stream it is difficult to see how the fetus can escape some response to its presence.

The postvaccinal eruptions were studied with particular reference to the vesicular and bullous forms. Here too the incubation period was found to vary, with the average about three or four weeks after the vaccination. The clinical course was found to be extremely variable.

We reported a case of a generalized eruption in a 6 months fetus born twenty-seven days after vaccination of the mother. The eruption consisted of umbilicated pustules and flaccid bullae. Similar cases have been described in the past as intra-uterine variola. An accurate diagnosis could have been established only by inoculation experiments with the fluid of the lesions. The history, appearance and pathologic studies were not sufficient to distinguish between these two possibilities. We believe this to be a case of pemphigoid vaccinia occurring in the fetus.

CUTIS VERTICIS GYRATA FOLLOWING TRAUMA AND INFECTION

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At the meeting of the American Dermatological Association in 1922 I reported two cases of cutis verticis gyrata [1] and exhibited the scalp of the first patient in a Kaiserling preparation. In the first case there was no history or evidence of trauma, infection or past inflammation.

Lesion in author's third case.

Complete removal of the involved area followed by skin grafts produced excellent results.

The second case presented typical lesions in the occiput of four years' duration. The process was gradually becoming more accentuated. Chronic inflammation associated with severe seborrheic eczema seemed to be the main etiologic factor. There was no history or evidence of traumatism.

From the Department of Dermatology and Syphilology, Stanford University Medical School.

1. Alderson, Harry E.: Cutis Verticis Gyrata, Arch. Dermat. & Syph. **6**:448 (Oct.) 1922.

My third case, a photograph from which is shown, is that of a man 25 years old, an American baker. In the upper occipital region he presents lesions typical of cutis verticis gyrata. His head is of the dolichocephalic type. The pronounced ridges and furrows extend anteroposteriorly over these regions. These convolutions are rather hard, and the hair is dense and black. The patient agreed to let us remove the lesions, but he refused later; so there are no sections to present.

Fifteen years ago his scalp was normal; at that time he suffered a heavy blow in the regions now involved, from a "chunk of wood." The resulting lacerations extended to the skull. He did not see a physician but applied petrolatum to the wounds, which became infected. They healed in about two weeks. Ridges and grooves soon appeared, and gradually over a period of several years became more pronounced. Adenopathy developed in the posterior occipital region, and has persisted, the glands being sensitive to pressure. The patient's physical condition is excellent. There is nothing of significance in his past or family history.

There are many cases reported in the literature, a large percentage of which were definitely associated with preexisting infections or inflammatory processes of some sort. However, there have appeared a number lacking this history. While most authors feel that there is always inflammation in these cases, there are some who still believe otherwise, and who classify the condition under the heading of nevi.

In my second and third cases there was definite inflammation, and in the third case there was definite severe injury and infection of a previously normal appearing scalp.

490 Post Street.

HISTORY OF FEMININE BEAUTIFICATION

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Women have been aware instinctively of the power of beauty to attract the male sex. They have offset their lack of physical strength by means of personal charms, aided by artificial means of beautification to which they ingeniously resorted. Cosmetics, a word derived from the Greek word (*κοσμητικός* from *κοσμεῖν*) *kosmetikos*, from *kosmein*, meaning to decorate, to adorn, have been used by women from the time of the earliest records, and those who used them advantageously often became the outstanding figures of their time.

As the population increased and clans were formed, rivalry, love, vanity and ambition were all brought into play. Thus, the desire to excel played a great rôle in the evolution of feminine beautification. History proves that women have halted at no barrier in their quest for beauty, in many instances unreluctantly submitting to sacrifices and tortures. Shackles, which man by brutal force had placed on them, gradually became attractive ornaments, many of which are still worn in various countries. The cloth, for example, with which their jealous masters compelled them to cover their faces, they skilfully transformed into soft, transparent and alluring veils.

Cosmetics, perfumes and aromatics played so important a rôle in the lives of the ancient Egyptians that even after death they sought to beautify as well as to preserve the deceased. Herodotus, called the father of history by Cicero, had traveled extensively in Egypt; according to his writings, the process of embalming included the removal of the brain and viscera, which were replaced by myrrh and frankincense, and the wrapping of the corpse in fine linen previously saturated with gum.

Judging from the masterly attempts to preserve and beautify the body post mortem, one can readily imagine what heights the Egyptians strove to attain in beauty culture among the living. In the Papyrus Ebers,[1] one may find numerous recipes for beauty which were in vogue more than twenty thousand years ago, some odd, others seemingly

1. Papyrus Ebers, translated by C. P. Bryan, New York, D. Appleton and Company, 1930.

grotesque, and still others with some scientific justification for their use. Among them were the following:

Meal-of-Alabaster
Meal-of-Natron
Sea-salt
Honey

Mix into one in this Honey and annoint the body therewith.

To change the color of the skin:

Sea-salt rubbed up with Honey and Red Natron.

One of the three recipes mentioned for rendering the face smooth:

Water-from-the-qebu-plant
Meal-of-Alabaster
Fresh abt-grain

Mix in Honey, make into a pap, mix in Human Milk and annoint the face therewith.

A recipe advocated against wrinkles:

Incense-cake
Wax
Fresh Olive Oil
Cyperus

Crush, grind, put in Fresh Milk, and apply to the face for six days.
See to It!

In this famous papyrus are mentioned remedies for moles and numerous measures against gray hair as well as superfluous hair. The different remedies mentioned for falling hair and the concoctions used as hair dyes are, from the modern standpoint, just as humorous as they are numerous. In the incipient stages of alopecia, oils, particularly castor oil, were used, and later more desperate remedies were invoked, among which were: "hair-of-the-hunta-animal," soaked in oil, and "tooth-of-an-ass," mixed in honey. Another method of charming away alopecia, not wholly unfounded scientifically, was the invocation of the sun's rays:

O Shining One, Thou who hoverest above!
O Xare! O Disc of the Sun!
O protector of the Divine Neb-apt!

This was to be spoken over:

Iron
Red-lead
Onions
Alabaster
Honey

Make into one and give against.

The hair dyes mentioned in the papyrus are: "dried-tadpoles-from-the-canal," crushed in oil; the "womb-of-a-cat," warmed in oil, with the "egg-of-the-gabgu-bird"; also "tortoise shell and the neck-of-the-gabgu-bird," boiled in oil. Was the neck of the bird preferred possibly for its thyroid content?

The recent excavations in the Valley of Ur brought to light the contents of the tomb of the Egyptian Queen Shub-ad who reigned almost six thousand years ago. Various peculiarly shaped vessels of cockle shell were found which evidently had contained cosmetics for her use in the world beyond. During the reign of the fascinating Cleopatra, the use of cosmetics probably reached its peak. This famous queen, supposedly considered a master of the art of beauty, was extremely extravagant in the use of cosmetics and aromatics. McNamara and Braden [2] quote from the most authoritative reports:

> It was the custom of the Egyptian lady of 4,000 years ago to make generous use of cosmetics, and her beautifully carved and ivory inlaid dressing table was always well supplied with appurtenances to beauty which have not changed to the present day. She had silver and bronze highly polished mirrors and alabaster pots filled with black and green eyebrow paint. And she carried abroad a rouge with which she generously dabbed her cheeks as soon as the bustling feet on the city streets had raised sufficient dust to take away the first bloom of her morning beautifying art.

She shaped her brows and tipped her lashes with a black pomade to make them appear longer, and was familiar with eyebrow pencil and lipstick. The woman of the predynastic period used slate added to the paint to give the desired hue. Cleopatra had fifteen different kinds of perfume, scattering odors from her false wigs, and it was customary for her to conceal glass globules containing her favorite perfume within her tightly plaited tresses. To the Egyptians are also credited the first bathing facilities, which were later elaborated by the Greeks and subsequently perfected by the Romans. According to Maspero,[3] the Egyptian woman of the lower social strata covered her forehead, chin and breasts with a delicate and indelible tattoo and painted her lips. She surrounded the eyes with a black band lengthened to the temples almost to the hair line, using a powder which was a mixture of antimony and finely pulverized charcoal, in order to enhance the whiteness of the complexion. The lady greased and oiled her hair and often dyed it blue. Her headdress fell about her neck and shoulders and terminated in tiny balls of earth. This hairdressing was repeated but once every ten or twelve days, and sometimes only once a month, the procedure proving difficult and tedious.

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2. McNamara, N. M., and Braden, S. W.: History and Trade Analysis of Cosmetology, Whittier, Calif., Western Printing Corporation, 1931.

3. Maspero, G.: Life in Ancient Egypt and Assyria, translated by Alice Marton, London, Chapman & Hall, Ltd., 1892.

Practically all of the ancient nations used cosmetics extensively. Herodotus, through his travels, also gained insight into the advancement in this art by the Babylonians. To make their eyes appear larger and more lustrous, they applied the Egyptian *Kohl* (*stibium*) to the lids and canthi and also made use of pumice stone and white and vermilion paints. The practice of shading or coloring the eyelids, brows and lashes seems to go back to the earliest ages. Mention is made of it in the Bible in the books of Isaiah and Jeremiah, and Ezekiel reproached the daughters of Israel for painting their eyes to please strangers. The Phoenicians, according to Heywood,[4] "polished" their faces and bodies with sweet unguents and odors and "set their hair in curls and beautified

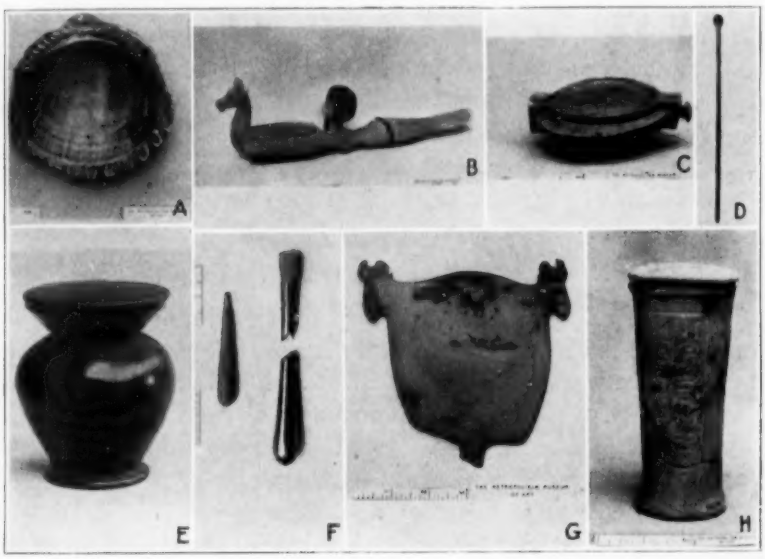

Fig. 1 (Egyptian).—*a*, cockle shell ointment dish from tomb of Queen Shub-ad, Valley of Ur; *b*, cosmetic dish, Eighteenth Dynasty; *c*, toilet dish filled with black paste, Eighteenth Dynasty; *d*, toilet spoon for ointment, Eighteenth Dynasty, Thebes El Assisser; *e*, kohl pot, Sixteenth Dynasty; *f*, kohl sticks, Obsidian and Hematiti, Lisht N. Pyramid; *g*, cosmetic paint pallet of slate, predynastic; *h*, unguent jar, Twelfth Dynasty, Thebes Assassif.

the head with jewels." The Assyrian woman washed and anointed her body and hair with essences, dyed the palms and nails red with henna and finally powdered her cheeks and darkened her eyebrows. The Athenian women anointed their bodies with perfumed oil and painted the lips; they were the first to use sunlight therapy as a beauty aid, and history credits them with the first beauty salons, in from 440 to 330 B.C.

4. Heywood, T.: The General History of Women from the Most Ancient Ages to the Present Time, London, W. Hunt, 1657.

The Greeks and Romans esteemed perfumes highly and prepared them with olive and other oils. Chronologically, the history of perfumes may be traced from the Egyptians to the Hebrews, then to the Assyrians and then to the Greeks and Romans, from whom it passed to the Arabs and, lastly, to the peoples of modern Europe.

The Romans invaded and captured Greece, and, being aware of her knowledge of the art of beauty, transported her beauty doctors to Rome. The toilet of the Roman woman involved elaborate and costly procedures and was the target of many of the ancient satirists. Among her various beautifying methods are found: the application of a poultice of bread and milk over the face before retiring, which was removed in the morning with the strigile, and a *cataplasma* made from large beans cooked in butter. As these treatments invariably left a rancid odor, she tried to remove it with pure water followed by the use of a *lenium,* the base of which was the milk of the she-ass, or by the use of a *lomentum* made of wheat and perfumed with the myrrh of Judea; the fashionable cosmetic of the day, the cream of Athens, was a preparation which owed its oiliness to hydrous wool fat (suint) and which, according to Ovid,[5] had a nauseating odor:

Non semel hinc stomacho nausea facta venit.

As a remedy for acne, the Roman woman used a precious mucilage from the nests of certain birds. After the use of these various unguents and creams, she washed her hands with soap, liquid or soft; the former, the more costly, was imported from the Gauls to whom Pliny gives credit for its invention. According to this famous writer, it was made from goat's tallow and beech tree ashes and perfumed with the precious cinnamon of Persia; it imparted a brilliant golden tint to the hair (*rutilandis capillis*). After washing her hands, she rubbed them with the milk of the she-ass. Honey, according to Ovid, was the vehicle for the various creams and lotions. He informs us that the Roman woman used a thin layer of white lead to lend pallor to her cheeks, and "in event of necessity," says Martial, "she used chalk." According to Ovid, a waxy tint was desirable and "the only color becoming to a woman in love:"

Palleat omnis amans: hic est color aptus amanti.

If she desired the pink tints, she used red paints of which, Horace tells us, the Roman woman had three kinds: *minu* (red lead), carmine and a certain extract of crocodiles. She attempted to remove wrinkles with an astringent which Varro, a contemporary of Cicero, called *tentipellium.*

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5. Ovid: Art of Love, translated by C. V. Mozley, New York, G. P. Putnam's Sons, 1929.

The use of cosmetics by the Roman women brought forth many epigrams from the satirists of the day. Martial, the most relentless of them all, said to one, "You sleep without your face":

Non tecum facies dormit tua.

To another he said: "You have a beautiful complexion but not a beautiful skin,"

Egregiam carnem, non pellem habes.

To still another he made the remark: "A picture that talks is a rarity." Juvenal was much more brutal when he said: "This coated face which is covered with so many drugs and where unfortunate husbands press

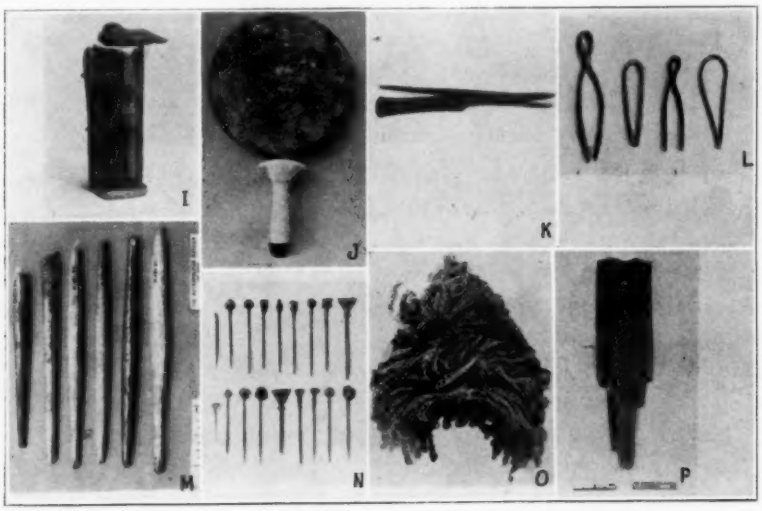

Fig. 2 (Egyptian).—*i*, kohl tube, Eighteenth Dynasty, Thebes; *j*, mirror, blue marble with black tip and bronze handle, Twelfth Dynasty (2000 to 1788 B. C.); *k*, bronze tweezers from Abydos, Eighteenth Dynasty; *l*, bronze tweezers, Twenty-Second Dynasty; *m* and *n*, wooden hair pins, Twentieth Dynasty; *o*, wig, Amum Duir El Bahri, Twenty-First Dynasty; *p*, comb, predynastic.

their lips, is it a face or a sore?" Ovid, a connoisseur of feminine beautification, seems to have become disgusted with the extent to which the Roman woman carried her make-up, for he stated, "Your heart rises at the sight of that scum which is on your cheeks and which drops down to your chest."

Quem non offendat toto foex illita vulta,
Cum fluit in tepidos pondere lapsa sinus.

Nevertheless, the Roman woman persisted in the lavish use of artificial means of beautification. Nor, among the procedures of her daily

toilet, did she omit attention to her tresses. She used a walnut dye adopted from the Britons to turn her hair black. Pliny gives the formula for another dye:

> Take a pint of leeches and two quarts of pure vinegar, pound them and put them into a vase and ferment for sixty days. At the end of this time rub into the scalp in the sunlight and the hair will become beautifully black. Do not forget during the operation to hold oil in the mouth without which your teeth will take the same tint.

Evidently the majority of hair tints in use at that time contained mercury. Pliny warned the person to hold oil in the mouth, presumably to avoid a mercurial stomatitis. When the blond tint was desired, "herbs of Germany" (*Germanis herbis*) was used and to obtain the red shades the caustic soap of the Teutons (*caustico Teutonicos*). Ovid mentioned the hair becoming dry and brittle from the use of dyes and caustic soaps and warned the women: "I tell you cease drugging your hair."

> Dicebam: Desiste tuos medicare capillas.

He also suggested to them that they use deer's marrow as a hairdressing. Although Pliny endorsed pomades, he warned against dermatitis venenata and ascribed value only to those pomades containing cantharides.

Of the coiffure, Ovid said: "There are a thousand ways of doing up one's hair; select the one which suits you best; before all things consult your mirror." Elaborate hairpins of wood, gold or ivory supplied the additional touch of beauty to the coiffure, but, should she have had the misfortune of losing her hair, the Roman woman did not hesitate to replace it with transformations purchased at the bazaar.

She did not, moreover, overlook the care of her eyes, which she shaded with a product of antimony—a practice borrowed from the Asiatics. She colored the lids, brows and lashes as prescribed by Ovid. Pliny, however, advocated burned and powdered ant's eggs (*ova formicarum usta et trita*). The Roman woman also used beauty spots, mentioned by Martial. She adopted from the Greeks the oriental custom of epilation and also tweezed her eyebrows. Martial recommended, as a remedy for hypertrichosis, psilothrum or dropax.

Galen, the celebrated Roman physician, is credited with having invented cold cream nearly eighteen hundred years ago. It has come down through the centuries with only slight modification. In the Pharmacopoeia Londinensis,[6] published in 1611, appears a formula with an excellent description of Galen's method of preparing cold cream:

> Take white wax, ounces iv
> Oil of Roses omphacine, lb. i

6. Pharmacopoeia Londinensis, ed. 2, translated by William Salmon, London, T. Dawks, 1683.

Melt them in a double vessel, then pour it into another putting in cold water by degrees, and often pouring it out of one vessel into another, stirring it till it be white; last of all wash it in Rose-Water, adding a little Rose Vinegar.

From the "Romance of Leonardo da Vinci," by Merejkowski,[7] one may get a clear idea of what the woman of the medieval and early renaissance periods was wont to use as beauty aids: "Fashion demanded that the eyebrows be barely defined and women endowed with thick eyebrows plucked them out with special tweezers." To do without rouge and white enamel was considered unseemly. "The tincture for gilding of the hair was prepared from the juice of hickory roots

Fig. 3.—*q*, strigile or scraper to remove cataplasma from face (Roman); *r*, Roman powder and rouge or cosmetic box (*pyxis*); *s*, Roman hairpins (ivory); *t*, bronze tweezers (Roman), 3000 to 1000 B. C.; *u*, Greek cosmetic box; *v*, Assyrian unguent bottle, Roman period, found near Hauren, Syria.

gathered in May, from saffron, ox-gall, droppings of swallows, grey succinum, burnt bear claws, and lizard tallow." For the removal of blackheads and tan was used: "the milk of a she-ass and a red she-goat, infused in wild anise, asparagus roots, and the bulbs of white lillies; the mixture was aged in warm horse manure and filtered through a felt strainer." In this filtrate, some soft sweetbread was dipped and the face rubbed with it, "for as long as it takes to say the Credo thrice." And a method of preventing alopecia may be appreciated in Merejkowski's own

7. Merejkowski, D.: The Romance of Leonardo da Vinci, New York, The Modern Library, Inc., 1928.

words: "Here, for instance, was the most worthy Madonna Angelica washing her head all last Summer with dog urine, that she might not become bald and thanked the Lord to boot because it helped."

In the beginning of the sixteenth century, the Venetians evidently originated the fad of powdering the hair. In the seventeenth century, rouge, powder and other cosmetics were in such extravagant use among all classes in England that the following act was introduced in the parliament to protect men from being beguiled into marriage by the use of artificial adornments:

> That all women, whatever age, rank, profession or degree, whether virgins, maids or widows that shall from and after such an Act impose upon, seduce and betray into matrimony, any of his Majesty's subjects, by the scents, paints, cosmetics, washes, artificial teeth, false hair, Spanish wool, iron stays, hoops, high-heeled shoes, bolstered hips, shall incur the penalty of the law in force against witchcraft and like misdemeanors and that the marriage upon conviction shall stand null and void.

The coiffure has always been considered an important asset to the costume, attained either by natural hair or by substitutes. Archeologic research proves that wigs were worn as far back as a hundred thousand years ago. This fact was substantiated by the finding of a wig in a cave at Brassenpouy, in Landes, by M. Piette. Historians have proved through a study of mummies that transformations were worn by the Egyptian women earlier than 2000 B. C., since it was not permissible for married women to wear a coiffure. Assyrian sculpture indicates the use of wigs in that country, and among the Greeks, they were considered the official royal headdress. The Roman women wore masses of red hair imported from Gaul. In England, wigs attained their maximum development under Queen Anne, and Queen Elizabeth possessed as many as eighty. Those worn by the judges and magistrates of England today bear a striking resemblance to those of Queen Anne.

In the Fiji Islands, the hair is made into a huge, tall knot and is dyed red, white or black. The belles of the Belgian Congo resort to the oil of the castor bean as a hair dressing, and in Central Africa the hair is plastered in grotesque patterns with mud.

The use of henna, known as *khenna* in Egypt, as *al khanna* in Arabia and as *mendee* in India, is scarcely to be called a caprice among the women of the Orient, India and Egypt. It has always been employed in these countries to color the finger-nails and toe-nails, and its use was probably introduced among the Hebrew women by King Solomon's wife, who was the daughter of a Pharaoh. Camphire, mentioned in the Bible in the Song of Solomon (1: xiv and 4: xiii) is believed to refer to henna. Its use has descended from the very remote ages, as is proved by evidence afforded by the Egyptian mummies, the nails of which are most commonly stained a reddish hue. In America and in Europe today henna serves as a popular hair dye.

The wearing of ear-rings has also always been considered an adjunct to feminine beautification; the earliest reference to it is found in the Bible in the book of Genesis. The practice of piercing infants' ears before they are 10 days old is still in vogue, particularly in Italy, Rumania and other southern European countries. The modern woman uses this embellishment advantageously, without necessitating the torture of piercing, by resorting to the adjustable ear-ring. A practice of some African tribes is to pierce the ears and purposely allow necrosis to ensue, producing large apertures in which various articles are worn.

Other tribes of Africa, Australia and other parts of the world look to the mouth for embellishment. Makassar women spend the greater part of their day painting their teeth red, and the women of the Malay Archipelago stain them black, blue, red and other colors; the women of some tribes of the islands of Borneo and Celebes bore holes in the teeth and insert studs, while others file the incisors to sharp points. The Batokas of Africa break off the front teeth to avoid appearing like brutes. A practice among the Bambines of the North Columbia River is to make a hole in the under lip of an infant and insert a small bone, replacing it with a larger one from time to time, until the desired size is obtained, usually about 3 inches in length and 1½ inches in width. The Ubangi tribe makes a slit in the lip and gradually stretches the opening, at first with a straw and then with objects of increased size until a wooden disk or a plate almost 20 inches in circumference can be inserted. Another means of feminine beautification by an African tribe is to perforate the lower lip and insert a bamboo ring (*pelele*). The women of a tribe in New Zealand are considered shameful if their lips are not tattooed, and the women of a certain tribe of African savages scarify the skin with sharp shells and rub black paint into the wounds, which heal into bizarre purple scars that are considered beautiful. Still other practices prevalent among savages are the insertion of bones or rings through the cartilage of the nose and the use of beads, leaves and brightly colored cloth in the hair. The Eskimo woman endeavors to beautify herself by the use of fat and grease.

Though one is inclined to believe that aids to beauty are of modern origin, a careful perusal of the literature proves the contrary. One may, perhaps, say that the ancient woman expended more time and went to greater extremes to beautify her person than does the modern woman. Altogether, historical facts prove that one must give the ancients more credit for their knowledge of the chemistry of cosmetics than one is inclined to at first thought.

200 West Fifty-Eighth Street.

POROKERATOSIS (MIBELLI)

REPORT OF A CASE, HISTOLOGIC STUDY AND ANIMAL INOCULATION

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The dermatosis originally described by Mibelli and eventually called by him "porokeratosis" is comparatively rare. A complete description of the condition with a review of the literature, including attempts at inoculation, and a report of six cases were made by Hall [1] in 1928. The familial and hereditary tendency exhibited by the patients made him believe that the condition should be called "kerato atrophic nevus." Since this article appeared a few additional cases have been reported, but no further attempts to inoculate human beings or animals have been made.

Pautrier and Revell [2] reported a case in an Italian girl 25 years of age. The condition was not unusual. Schnabl [3] presented the histologic findings in a case, which consisted essentially of involvement of the sweat glands, active hypertrophy of the epidermis and reactive changes in the cutis, giving rise to atrophy. Nicolau [4] reported the case in which the patient, 22 years of age, had lesions on the trunk for ten years. These lesions were unilateral, resembling herpes zoster. Nicolau expressed the opinion that the changes in the sweat ducts and follicles were of secondary importance. Schmidt [5] described an unusual condition consisting of a keratotic process on each external malleolus in which the folds of the skin were exaggerated, grayish, rhomboidal and

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From the Division of Dermatology of the Department of Medicine of The University of Chicago.

1. Hall, G. A. M.: Porokeratosis (Mibelli): A Report of Its Occurrence in Six Chinese Patients, Arch. Dermat. & Syph. **18**:396 (Sept.) 1928.

2. Pautrier, L. M., and Revell: Porokeratose de Mibelli, Bull. Soc. franç. de dermat. et syph. **36**:1155, 1929.

3. Schnabl, E.: Ein Fall von Poroceratosis Mibelli, Arch. f. Dermat. u. Syph. **157**:207, 1929.

4. Nicolau, S.: Un cas de porokeratose Mibelli, Bull. Soc. roum. de dermat. **1**:5, 1929; abstr., Zentralbl. f. Haut- u. Geschlechtskr. **31**:478, 1929.

5. Schmidt, P. W.: Ueber eine bisher nicht besch riebene punktfömige Keratose. Poroceratosis vera non perstans, Arch. f. Dermat. u. Syph. **158**:186, 1929.

studded with many small craters most of which were closely packed and some of which contained easily removable plugs. There was a slight inflammatory reaction. The condition had a tendency to disappear spontaneously. Microscopic examination showed keratosis of the sweat glands in the mouths of which were lamellated parakeratotic plugs. About the sweat glands there was an infiltration of round cells and edema. The author described the condition as "porokeratosis vera non-perstans." Hermans [6] reported the case of a 12 year old girl who had had lesions on the extremities since birth; for the most part the condition was unilateral. Mukai [7] reported a case of a special form of porokeratosis Mibelli, which was present in the mother, sister and two brothers of the patient who was 24 years of age. The lesions ranged in size from that of less than a millet seed to that of a finger-tip; the lesions were round, oval and irregularly shaped plaques, some of which were red and others brownish, localized on the face, ears, neck, shoulder, scrotum and the extensor and flexor surfaces of the extremities. The periphery of the lesions showed a narrow, elevated, rough, wall-like, hyperkeratotic border. Some of the plaques were smooth and atrophic, and others were thick and scaly and showed one or two sharply pointed horny plugs.

The following case has been observed in this clinic recently and is reported because of the rarity of the condition in this country, the presence of some features differing from those usually described, and the interpretation of the condition based on microscopic and inoculation studies.

REPORT OF A CASE

History.—A physician, aged 34, complained of a persistent scaly lesion on the dorsomedial surface of the third finger of the left hand. There were many tuberculous persons in the family. The patient's mother died of carcinoma of the gallbladder, and a grandmother had had carcinoma of the lip. The patient had always complained of a sensitive nasal mucosa. In 1927, he suffered from some vague abdominal disease which was diagnosed as "bowel distress." At that time roentgenographic studies of the gastro-intestinal tract gave negative results. In 1929, he had alopecia areata of the neck and chin and dyshidrotic lesions on the fingers. In 1929, roentgonograms showed old calcified tuberculous lesions of the base of the right lung.

In 1925, the patient first noticed a small lesion on the third finger of the left hand. It started as a small crater similar to an acid burn. During its evolution it spread slowly, with a tendency to disappear almost completely at times. He had noticed that there was a distinct wall surrounding the lesion which would grow to a palpable elevation which would be dislodged on slight trauma. At times trauma had also caused bleeding. The lesion had not been treated.

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6. Hermans, E. U.: Porokeratosis mibelli, Nederl. tijdschr. v. geneesk. **1**: 1950, 1930; abstr., Zentralbl. f. Haut.- u. Geschlecktskr. **34**:581, 1930.

7. Mukai, T.: Special Form of So-Called Porokeratosis Mibelli, Acta dermat. **15**:524, 1930; abstr., Zentralbl. f. Haut.- u. Geschlechtskr. **35**:775, 1930.

Examination.—Physical examination gave negative results, with the exception of the lesion on the finger. On the dorsomedial surface of the third finger of the left hand, just proximal to the first interphalangeal joint, there was a roughly oval lesion about 7 mm. in diameter. It presented a central portion which was faintly erythematous and scaly; the skin appeared thin and atrophic. Surrounding this was a sharply marginated elevation about 0.5 mm. in width and in height. This wall seemed to be definitely embedded, and the base of the ridge extended

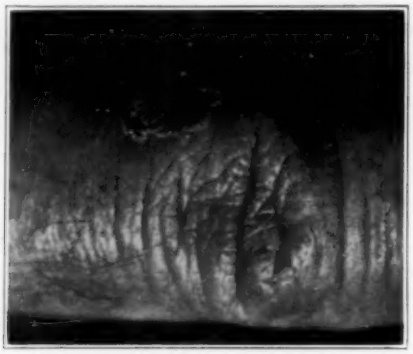

Fig. 1.—Photograph of lesion on middle finger.

Fig. 2.—Section seen under low power magnification; hemalum-erythrosin-saffron stain.

well beneath the level of the skin. The continuity of this border was broken in several places. The lesion was removed on Jan. 15, 1931, one half of the specimen being used for histologic study and the remaining half being injected into a guinea-pig.

Microscopic Study.—The section of skin was fixed in a solution of trinitrophenol and formaldehyde, embedded in paraffin and stained with hemalum-erythrosin-saffron, Held's hematoxylin and Masson's trichrome stain (iron

hematoxylin, ponceau-acid fuchsin, aniline blue). When the section was studied with the naked eye, it was noted that there were two projections on the epidermal surface representing the borders of the lesion (fig. 1). Under microscope, the tissue was seen to be that of skin removed from a region with a thickened stratum

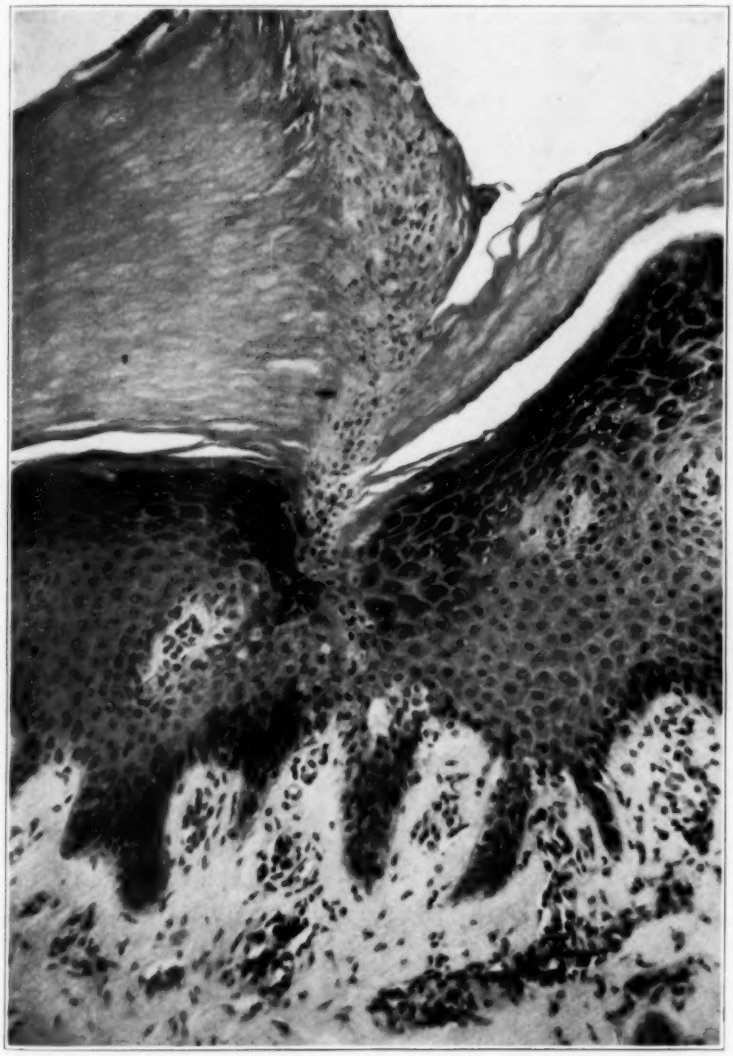

Fig. 3.—Border of lesion seen under high power magnification; hemalum-erythrosin-saffron stain.

corneum, such as the palmar surface. The stratum corneum was of uniform thickness from the edge of the section up to the region constituting the border of the lesion, where it rapidly became thicker and formed a fairly sharp projection; within the lesion it was thinner than normal. The stratum granulosum was of

normal thickness up to the border of the lesion, where it was interrupted for a short space, and throughout the lesion it was twice the normal thickness. The stratum mucosum was of normal thickness up to the border of the lesion, where it was thin at the point of interruption in the stratum granulosum but did not seem to have been thinned by pressure, because the cells were not compressed. Within the lesion the stratum mucosum was about twice its normal thickness. This is in contrast to the observations in many reported cases in which the epidermis in the lesion was atrophic. The sweat ducts were distinctly hyaline. The papillae were normal, except at the border of and within the lesion. There

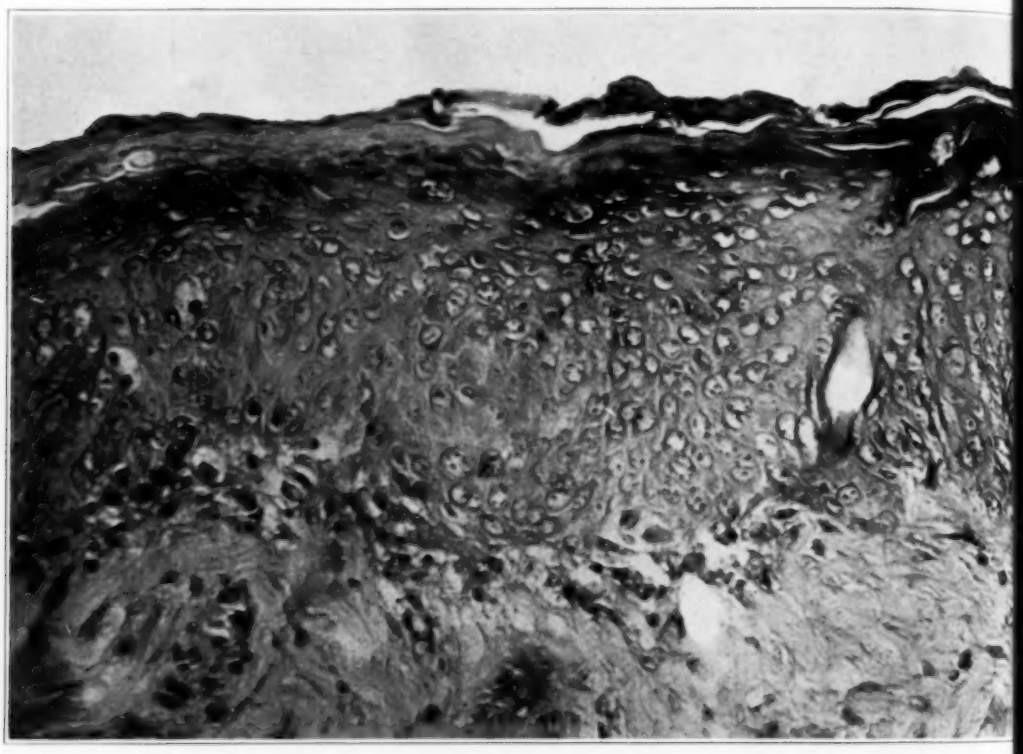

Fig. 4.—Skin of guinea-pig, showing changes suggestive of those found in porokeratosis; high power magnification; hemalum-erythrosin-saffron stain.

was a slight perivascular infiltration consisting of various types of cells, some with small pyknotic, elongated nuclei with a small amount of cytoplasm and others with large, pale nuclei and larger cell bodies. The endothelial cells of the small vessels were swollen. The section was not removed deeply enough to include all sweat glands, but those which were seen appeared normal.

The most marked change was seen in the region of the border, in which the stratum corneum had undergone thickening in a narrow band (fig. 3) composed of densely arranged nucleated cells which extended to the surface and formed the sharp projection seen clinically in the border. This process extended into the stratum mucosum, where a few isolated cells showed partial or complete cornifica-

tion, and it could be seen as far as three or four layers from the basal layer, although it varied in different regions. It is difficult to state whether this process originated over the tip of a papilla or in a rete process. The cells undergoing this change were first localized by their color, which was of a more reddish hue than that of surrounding cells (sections stained by hemalum, erythrosin and saffron). Their protoplasm was vacuolated, suggesting intracellular edema. At first intercellular bridges were present, but disappeared as the cells approached the surface (Held's hematoxylin stain). The cells finally became highly refractive orange-red bodies with contracted nuclei, and this characteristic was retained to the surface. In some of the cells the nuclei stained with difficulty, and in some of them no nuclei could be seen. In some of the sections a sweat duct could be seen in the center of the active process.

ANIMAL INOCULATION

One half of the patient's lesion was macerated in sterile physiologic solution of sodium chloride and injected intracutaneously into the abdomen of a guinea-pig. One month following this injection a small hard nodule, measuring about 4 mm. in diameter, was observed. The guinea-pig remained in apparent good health, and four months after inoculation, the lesion, still the same size, was removed. One half of this nodule was used for histologic study, and the other half was injected into a second guinea-pig in the same way as before. Three weeks later, both pigs died of an unknown cause. Necropsy did not reveal a pathologic condition. Microscopic examination of a section of skin from a guinea-pig showed most of the change deep in the dermis, where there was a marked cellular infiltration and fibrosis, with a clear space which evidently had contained fluid. In one part of the epidermis changes were seen similar to those found in porokeratosis (fig. 4). The stratum corneum was parakeratotic. The stratum granulosum was substituted by a layer of nucleated cells, some of which had undergone individual keratinization. The stratum mucosum was thickened at this point. The basal portion was edematous, and the epidermodermal junction was indefinite. The superficial dermis was edematous and involved in a slight infiltration of round cells.

COMMENT

It would seem that we are dealing with a progressive, mildly inflammatory process which has its center of activity in a restricted area at the border of the lesion and that the first detectable change is a mild inflammation of the dermis with slight intercellular edema of the epidermis. This inflammatory change is found three or four papillae beyond the border of the lesion, and it is followed by disorganization of the keratinization cycle, so that the epidermal cells in this narrow region undergo early keratinization, adhere together and form the rather sharply projecting border of the lesion. No evidence favoring the theory that the epidermis is thinned by pressure of the thickened

stratum corneum was seen, nor was it possible to find support for the theory that the origin is to be found in sweat ducts or glands. The term "nevus" is used for so many purposes that there is no advantage in classifying porokeratosis (Mibelli) as a nevus. It seems to be a chronic inflammatory process of unknown etiology. The occurrence of similar changes in the skin of a guinea-pig following inoculation suggests an infectious origin. The intermission of four months between inoculation and histologic examination would rule out inoculation trauma as the cause of epidermal changes, although of course it is impossible to give the exact cause of the changes described. All of the pathologic material was used in the first inoculation, and the experiment could not be repeated.

SUMMARY

A man, aged 34, presented a single lesion of porokeratosis (Mibelli) of six years' duration. Histologic study showed marked localized hyperkeratosis and parakeratosis at the border of the lesion, with thinned stratum corneum in the center of the lesion. The stratum mucosum was thinned at the border, but markedly thickened throughout the rest of the lesion. Dermal inflammation was present in a few papillae on both sides of the border. Epidermal cells at the border were undergoing early individual keratinization. Four months after intracutaneous injection of macerated material from the lesion into the abdomen of a guinea-pig, similar changes were found in the animal. The stratum corneum was parakeratotic. The stratum granulosum was substituted by a layer of nucleated cells, some of which had undergone individual keratinization. The stratum mucosum was thickened at this point. The basal epidermis was edematous, and the superficial dermis was edematous and involved in a slight infiltration of round cells.

No evidence was found supporting the theory that the process originates in the sweat glands. The condition seems to be a chronic inflammatory process of unknown etiology, possibly infectious.

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DERMATOMYOSITIS

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Our purpose in this paper is to review briefly the literature on the syndrome of dermatomyositis, especially as regards the behavior of patients with this disease, and to record in detail the observations, over a period of two years, on a patient with involvement of one lower extremity, which finally had to be amputated.

HISTORICAL REVIEW

Unverricht [1] in 1887 is credited with originating the terminology for the syndrome. Wagner [2] and Hepp [3] also reported cases in 1887. The first case reported in America was the one of Hepp, described by Henry Jackson [4] in 1887. The literature was reviewed by Lorenz [5] in 1904. Steiner [6] in 1905 was able to collect twenty-eight cases that he regarded

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1. Unverricht, H.: Ueber eine eigenthümliche Form von acuter Muskelentzündung mit einem der Trichinose ähnelndem Krankheitsbilde, München. med. Wchnschr. **34**:488, 1887; Polymyositis acuta progressiva, Ztschr. f. klin. Med. **12**:533, 1887.

2. Wagner, E.: Ein Fall von acuter Polymyositis, Deutsches Arch. f. klin. Med. **40**:241, 1886-1887; quoted by Peemöller: Deutsche Ztschr. f. Nervenh. **68-69**:370, 1921.

3. Hepp, P.: Ueber Pseudotrichinose eine besondere Form von acuter parenchymatose Polymyositis, Berl. klin. Wchnschr. **24**:297 and 322, 1887.

4. Jackson, H.: Myositis Universalis Acuta Infectiosa, with a Case, Boston M. & S. J. **116**:282, 1887.

5. Lornez, H.: Die Muskelerkrankungen (Theil I), in Nothnagel, H.: Specielle Pathologie und Therapie, Vienna, A. Hölder, 1894, vol. 11, pt. 3, sect. 1, p. 160; Die Muskelerkrankungen, Vienna, A. Hölder, 1904, p. 389.

6. Steiner, W. R.: (*a*) Dermatomyositis, with Report of a Case Which Presented a Rare Muscle Anomaly but Once Described in Man, J. Exper. Med. **6**:407, 1905; (*b*) Dermatomyositis, with Report of Two Cases, J. A. M. A. **78**:271 (Jan. 28) 1922; (*c*) Dermatomyositis, in Osler, William: Modern Medicine, Philadelphia, Lea & Febiger, 1927, vol. 5, p. 784.

as typical, excluding cases reported by Sick [7] of Tübingen and by others as not being typical.

Dermatomyositis is described by Steiner,[6] who reported the first large number of cases, as "an acute, subacute, or chronic disease of unknown origin characterized by gradual onset, with vague and indefinite prodromata, followed by edema, dermatitis, and multiple muscle inflammation." This paper remains a satisfactory summary of the disease, but the qualification should be made that this process is nonsuppurative. The cases reported by Sick [7] in 1905 in the German literature are considered as instances of dermatomyositis or polymyositis, although they were somewhat atypical. These cases were epidemic in an institution, a unique condition in this disease. Burley,[8] in 1908, with an excellent paper on the syndrome, added three cases. Rotky,[9] in a monograph published in 1919, which has not been available to us, reported forty cases. Peemöller [10] in 1921 added eight cases to the literature. Hoover [11] reported three cases. Rosenthal and Hoffman [12] reviewed the literature in 1923. Friedman [13] in 1926, Steiner [6] in 1922 and Wermer [14] in 1927 each added two cases with excellent discussions. A typical case was reported from Canada by Carney [15] in 1927. Klingman [16] in 1930 reported twelve cases of a rheumatic, sclerodermal, dermatomyositis syndrome; only a few of these were at all typical of the classic syndrome of dermatomyositis. Barker [17] of the Mayo Clinic reported a case in 1930 and mentioned five other cases known at the clinic. Other instruc-

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7. Sick, K.: Akute rezidivierende Polymyositis in epidemischem Auftreten, München. med. Wchnschr. **52**:1092, 1905.

8. Burley, B. T.: Subacute Polymyositis with a Report of Three Cases, J. A. M. A. **50**:177 (Jan. 18) 1908.

9. Rotky, H.: Ueber Polymyositis acuta, Berlin, Urban & Schwarzenberg, 1919.

10. Peemöller, F.: Ueber Dermatomyositis, Deutsche Ztschr. f. Nervenh. **68-69**:370, 1921.

11. Hoover, C. F.: Dermatomyositis in Diseases of the Muscles, in Tice, F.: Practice of Medicine, Hagerstown, Md., W. F. Prior Company, 1921, vol. 6, p. 536.

12. Rosenthal, Curt, and Hoffman, Heinrich: Ueber gewisse seltene muskuläre Affektionen und ihre Beziehungen zur Sklerodermie, Deutsche Ztschr. f. Nervenh. **80**:1, 1924.

13. Friedman, E. D.: Dermatomyositis, M. J. & Rec. **123**:382, 1926.

14. Wermer, P.: Ein Fall von primär chronischer Dermatomyositis, Wien. med. Wchnschr. **77**:1759, 1927.

15. Carney, M. J.: Case of Chronic Dermatomyositis, Canad. M. A. J. **17**:911, 1927.

16. Klingman, W. O.: Dermatoneuromyositis Resulting in Scleroderma, Arch. Neurol. & Psychiat. **24**:1187 (Dec.) 1930.

17. Barker, N. W.: An Unusual Case of Dermatomyositis, Proc. Staff Meet., Mayo Clin. **5**:169, 1930.

tive cases have been reported by Bronson,[18] Davidson,[19] Finley,[20] Groedel and Hubert,[21] Joachim,[22] Lehmkuhl,[23] Schueller [24] and Urbach.[25]

It would probably be possible to collect one hundred cases, mostly in the English and the German literature. Moore and Koch [26] in 1928 made a much lower estimate, of fifty-five reported cases. The increasing number of cases reported brings into this classification syndromes which in many ways simulate the conditions in the earlier reported cases, but in other ways differ from them. If all these are truly cases of dermatomyositis, new aspects are being brought into the clinical picture of the syndrome.

The difficulty, and in some cases even the impossibility, of exact diagnosis were emphasized by Langmead [27] (1923), who expressed the belief that diffuse generalized scleroderma, calcinosis, dermatomyositis and myositis fibrosa are intimately related, representing parts of some morbid process common to all. Allan [28] questioned the possibility of a differential diagnosis of scleroderma and dermatomyositis. He considers that muscular involvement may occur in scleroderma. If this premise is to be taken, one must incline to Allan's view. It seems more logical, however, to consider all such cases with involvement of the skin and muscles as cases of dermatomyositis, and to consider all cases without muscular involvement with the attributes of scleroderma as cases of scleroderma. Weber and Gray [29] suggested that in many cases reported as instances of scleroderma with myositis the condition is probably dermatomyositis.

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18. Bronson, E.: Case of Dermatomyositis, Proc. Roy. Soc. Med. (Sect. Dis. Child.) **10**:28, 1916-1917.

19. Davidson, C.: Dermatomyositis: a Clinicopathologic Study (Report of a Case with Complete Necropsy), Arch. Dermat. & Syph. **19**:255 (Feb.) 1929.

20. Finley, F. G.: Dermato-Myositis, Canad. M. A. J. **13**:391, 1923.

21. Groedel, F. M., and Hubert, G.: Ein Fall von Sklerodermie nach Unfall, Wien. klin. Wchnschr. **38**:409, 1925.

22. Joachim, H.: A Case of Dermatomyositis, Arch. Dermat. & Syph. **7**:326 (March) 1923.

23. Lehmkuhl, H.: Ein Fall von Dermatomyositis, Arch. f. Kinderh. **86**:179, 1929.

24. Schueller: Polymyositis im Kindesalter, Jahrb. f. Kinderh. **58**:193, 1903; quoted by Batten.

25. Urbach, E.: Dermatomyositis pseudoleucaemica, Arch. f. Dermat. u. Syph. **162**:27, 1930.

26. Moore, C., and Koch, L. A.: Dermatomyositis; Report of a Case with Necropsy, Am. J. Dis. Child. **35**:71 (Jan.) 1928.

27. Langmead, F. S.: The Relationship Between Certain Rare Diseases: Generalized Scleroderma, Calcinosis, Dermatomyositis, Myositis Fibrosa, Arch. Pediat. **40**:112, 1923.

28. Allan, W.: Dermatomyositis or Scleroderma? Arch. Dermat. & Syph. **19**: 265 (Feb.) 1929.

29. Weber, F. P., and Gray, A. M. H.: Chronic Relapsing Polydermatomyositis with Panniculitis, Brit. J. Dermat. **36**:544, 1924.

The review of the literature revealed no cases in which amputation became necessary, and there is mention of but two cases in which the disease was confined to one extremity. These two were mentioned by Friedman [13] as being reported by Wertheim-Solomonson. Unfortunately, the original paper could not be traced to its source. The disease in these cases was confined to the left arm. Steiner [6] reported two fatal cases in which the arms and the legs were involved.

ETIOLOGY AND INCIDENCE

The etiology is unknown. Whether or not any specific agent, or agents, are responsible for the syndrome is difficult to say, but up to the present time there is no good evidence that bacteria are causative factors. Grunke [30] reported a case in which tuberculosis may have been a factor. Friedman [13] reviewed the many theories suggested, none of which have been proved. Numerous cases have followed infectious disease, while numerous others have occurred spontaneously in previously healthy persons. Steinfeld [31] suggested that the condition might be a symptom complex of various infections.

The incidence seems somewhat greater in middle-aged persons, but the disease occurs at all ages. From 15 to 20 per cent of the cases occur in children. The cases reported have occurred mostly in the white race, with the exception of several instances in Negro patients. The sex distribution is about equal, with a slight preponderance of males.

SYMPTOMATOLOGY

The onset of the disease is usually insidious, of from one to three weeks' duration, occasionally acute, with complaints of malaise and fatigue. The involvement is usually symmetrical. The muscles become sensitive and sometimes so painful that the patient cries aloud on active or passive motion. Muscle weakness may be marked. The muscles swell, becoming hard and distended, soft and doughy or lumpy. This stage is followed by varying degrees of muscle spasm, shortening and infiltration with lymph, which result in the flexed arms and legs of the later stages of the disease. The musculature becomes ligneous. Coincident with the change in the muscles is limitation of motion of the joints and of tendon reflexes. The reaction of degeneration is sometimes present, as are paresthesias. Hyperhidrosis of the affected part often occurs. The fingers are usually unaffected. The flexor muscles of the arms and legs are commonly involved. The muscles of the neck, buttocks, abdomen and face are involved, and in a number of cases the muscles of respiration, of deglutition, of the tongue and of the eyes, but

30. Grunke, W.: Tuberculose als Ursache einer Dermatomyositis, Ztschr. f. klin Med. **102**:311, 1925.

31. Steinfeld, Fritz: Zur Kenntnis der Dermatomyositis, Deutsche med. Wchnschr. **56**:960, 1930.

rarely the cardiac muscle. The countenance may even become immobile. Involvement of the muscles of respiration and of deglutition is particularly serious, frequently resulting in death from pneumonia. The cutaneous manifestations are various, but there is usually nonpitting edema over the involved muscles. Rarely does this edema extend over the hands or feet. The skin has a glistening appearance and urticarial, erysipeloid or erythematous lesions may appear. Erythema nodosum or multiforme may be simulated. Edema often appears first in the face. It is usually sharply delimited at the wrists and ankles, but may appear at any area covered by loose skin. Fever may or may not be present. Steiner [6] said that the temperature rarely exceeds 104 F. (40 C.). It usually is much below this level. Profuse perspiration and enlargement of the spleen are found occasionally.

The basal metabolism is increased in many cases, but in many others is subnormal. The white blood cell count is not uniformly increased, nor is there variance in the differential count. The urine is usually normal, although certain complicated cases present abnormal findings. The electrocardiogram is normal in all patients except those suffering from myocardial involvement, which results in a serious prognosis.

PATHOLOGY

The pathologic changes vary somewhat, depending on the stage in which the disease is studied. Burley [8] described early changes with inflammation, swelling, transudation and hemorrhage affecting largely the connective tissue. In some areas there is loss of muscle striation, but certain muscle bundles and fibers are usually unaffected.

Certain cases have shown polymorphonuclear cells in the muscle tissue which were later replaced by lymphocytes and mononuclears. Changes in the advanced stages of the disease showed attempts at regeneration of muscle with the presence of granular to waxy degeneration, vacuolization, increase in the number and size of the nuclei, increase of fat globules and a greatly thickened perimysium and endomysium, which became myxomatous or fibrous. Batten [32] reported perivascular infiltration about the blood vessels with occlusion or hyaline degeneration. His report is unusual in that young connective tissue was found in the medulla of the kidney. There also was thickening of the intima of the coronary vessels. Barker [17] and a few others also have reported perivascular round cell infiltration. In Senator's [33] cases the nerves were involved, though probably not primarily. The nerves are generally reported as normal. Weber and Gray [29] have given an excellent description of the pathologic changes. They stated that the epidermis appeared

32. Batten, F. E.: Case of Dermatomyositis in a Child, with Pathological Report, Proc. Roy. Soc. Med. (Sect. Neurol.) **5**:103, 1911-1912; Brit. J. Child. Dis. **9**:247, 1912.

33. Senator, quoted by Steiner.[6a]

irregular, with loss of the normal shape of the papillae. Hyperkeratosis of the follicles was marked. The dermis showed collagen layers separated by edema. The vessels were without perivascular infiltration and had normal elastic fibers. The panniculus showed hyaline degeneration of the collagen bundles with lack of structure. The fat lobules were infiltrated with cells, especially in the vascular areas. These cells were plasma, round and epithelioid cells and fibroblasts, and some were giant cells. Barker [17] noted deposits of calcium in soft tissues in three of the six cases from the Mayo Clinic.

DIFFERENTIAL DIAGNOSIS

Diagnosis must include a consideration of scleroderma, well described by Longcope [34] and in the texts of McCarthy [35] and Pusey; [36] dermatomyositis may at times be intimately related to this condition, from which it may be impossible to distinguish it. A marked degree of early muscular involvement definitely points to dermatomyositis. Allan [28] questioned the possibility of differential diagnosis between the two conditions.

Trichinosis may closely resemble this disease; in fact, dermatomyositis has been termed "pseudotrichinosis." Absence of eosinophilia and failure of biopsy of muscle to reveal trichina aid in the differentiation. Wermer [14] has reported a case as one of dermatomyositis in which biopsy gave negative results and in which 38 per cent of eosinophils were found.

Polyneuritis, syphilitic or suppurative myositis, myositis fibrosa, myositis ossificans, myositis myoglobinurica (Gunther [37]), phlebitis, myxedema, deficiency edema, trophic neurosis, ischemic paralysis and Burke's sarcoid with myoglobinuria (Mucha and Orzechowski [38]) are other conditions to be considered in the differential diagnosis.

TREATMENT

The treatment of this disease has been varied. This leads one to feel that recovery often has had little association with treatment. Oppenheim [39] was enthusiastic about the use of heat and of salicylates, but

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34. Longcope, W. T.: Hypoglycemia in Scleroderma, J. A. M. A. **90**:1 (Jan. 7) 1928.

35. McCarthy, Lee: Histopathology of Skin Diseases, St. Louis, C. V. Mosby Company, 1931.

36. Pusey, W. A.: The Principles and Practice of Dermatology, ed. 4, New York, D. Appleton and Company, 1924.

37. Gunther, H.: Kasuistische Mitteilung über Myositis myoglobinurica, Virchows Arch. f. path. Anat. **251**:141, 1924.

38. Mucha, V., and Orzechowski, K.: Ein Fall von tuberculöser Dermatomyositis (Typus Boeck), Wien. klin. Wchnschr. **32**:25, 1919.

39. Oppenheim, quoted by Burley: Subacute Polymyositis with a Report of Three Cases, J. A. M. A. **50**:177 (Jan. 18) 1908.

Burley [8] did not favor these methods after using them. Frisch [40] used yatren-casein and diathermy with favorable results. He said that sodium salicylate and calcium chloride were without effect. In a subacute case Heyn [41] reported quick response to the administration of calcium chloride, 2.6 Gm. three times daily. McLester [42] reported the use of large amounts of arsenic, later counteracted by sodium thiosulphate, without any distinctive results. Burley [8] used quinine, 5 grains (0.3 Gm.), three times a day. Kroemer [43] reported remarkable results in one case from the use of arsphenamine. Weber [29] tried thyroid, from 1 to 3 grains (0.06 to 0.18 Gm.), and parathyroid, 1/20 grain (3 mg.), without results. Batten [32] used salicylates, iodides, mercury, iodized sesame oil 40 per cent, fibrolysin, massage and baths, without avail. The numerous types of therapy that have been tried suggest that treatment accomplishes little.

PROGNOSIS

The prognosis has been considered unfavorable in 50 per cent of the cases. Many cases are fatal in from three or four weeks to two or three months. The disease may advance from one part of the body to another, producing long disability with eventual recovery or death. McLester [42] and Rosenthal and Hoffman [12] have reported cases with marked contracture in which complete recovery occurred eventually. Affected muscles may either recover or become permanently atrophied. Steinfeld [31] considered the prognosis more favorable in children than in adults. In sixteen cases in children noted between 1895 and 1928 eight patients made complete recovery. Acute cases, according to Steiner,[6] have a duration of about one or two weeks, subacute cases a duration of from two to eight months, and chronic cases a duration of from one and one-half to two years.

The case presented here is of particular interest for several reasons, any one of which might justify its report. This case has been thoroughly studied under observation in the hospital from the onset, in December, 1929, to the time of amputation of the diseased extremity, in September, 1931, and through subsequent convalescence. Detailed clinical observations have been made, including a pathologic study of the amputated extremity.

REPORT OF A CASE

History.—R. M. C. (fig. 1), a white girl, born in 1924, was admitted to the Lakeside Hospital on Jan. 10, 1930, two weeks after her first visit to the dis-

40. Frisch, A. V.: Zur Klinik der Dermatomyositis, Med. Klin. **23**:1405, 1927.
41. Heyn, L. G.: Dermatomyositis, J. A. M. A. **82**:1019 (March 29) 1924.
42. McLester, J. S.: Dermatomyositis, J. A. M. A. **87**:1990 (Dec. 11) 1926.
43. Kroemer: Ein Fall von Dermatomyositis überraschende Heilung bei Salvarsanbehandlung, München. med. Wchnschr. **67**:1015, 1920.

pensary. She was referred to the hospital with the tentative diagnosis of lymphangitis and phlebitis of the right lower extremity. Her complaint was pain, stiffness and swelling of the right leg and thigh, which had commenced six weeks prior to admission, when she began to limp. At that time she told her mother in explanation that she had fallen from a porch step. The mother could find no external evidences of injury. Subsequent to this it was noticed that the child carried her leg in partial flexion and walked on her toes. No history of fever or of other complaints was elicited. She had had measles, mumps and whooping cough. The only operative procedures had been tonsillectomy and adenoidectomy in 1928.

Fig. 1.—*A*, R. M. C., on Nov. 15, 1930, one year after the onset of dermatomyositis. This view shows atrophy, flexion, contracture and skin lesions. *B*, R. M. C., on April 2, 1931, eighteen months after the onset and two months following arthrodesis at the knee.

Physical Examination.—Examination revealed a well developed and well nourished child apparently of normal mentality. The temperature was 38 C. (100.4 F.), the pulse rate 108, the respiratory rate 20, and the blood pressure 90 systolic and 55 diastolic. The pharynx was injected. The chest was flat, with flaring at the costal margins and a slight rachitic rosary. The vital capacity was 1,000 cc., within normal limits. The heart and lungs were normal, as was the abdomen. The superficial and subinguinal lymph nodes on the right were enlarged but not tender; those of the left groin were slightly enlarged. At the outer end of Poupart's ligament was a soft mass the size of a walnut with a consistency somewhat like that of a lipoma; this was said to have been present for several years.

The extremities, save for the right leg and thigh, were normal. The reflexes were normal except for those of the right leg.

The right lower extremity was swollen, and it was increased ½ inch (1.27 cm.) in circumference. There was tense edema from the toes to Poupart's ligament, with some redness on the lateral aspect extending up the thigh. The subcutaneous tissues and muscles were indurated and rigid. Posteriorly just above the knee was an area of boardlike rigidity in the distal portion of the hamstring muscles and over the popliteal space. This was tender only to deep pressure. The knee was permanently flexed 15 degrees. Painless flexion to 90 degrees was possible. Flexion and rotation of the hip were normal. The foot was in plantar flexion at 120 degrees, with limitation of lateral motion. Reflexes were not elicited in the right leg. Roentgenograms taken just previous to admission showed no abnormal change. Laboratory examinations showed a white blood count of from 8,000 to 9,000 (eight counts), with hemoglobin 85 per cent (Tallquist). The urine was normal; a vaginal smear and cultures from the nose and throat were negative.

Treatment and Course.—Hemorrhage into the bellies of the hamstring muscles was considered as a possible causative factor of the muscle contracture, and a diagnosis of ischemic paralysis was made. One week following the patient's admission a plaster splint was applied and wedged at the knee for a month with the intention of extending the knee and dorsiflexing the ankle. Some progress was made. A second splint was applied five weeks after admission. On Feb. 24, 1930, the child was sent to the Rainbow Hospital (a convalescent hospital) for continuation of the wedging. There was a rather constant elevation of temperature in the afternoons, which began before the patient's discharge from the Lakeside Hospital. The temperature ranged between 37 and 38 C. (98.6 and 100.4 F.) (rectal) until the last of March, showing an increasing tendency to remain at higher levels. Late in March the temperature reached as high a point as 39.5 C. (103.1 F.). At that time the patient was having profuse sweats, particularly noticeable over the forehead, and during the month of March she lost 10 pounds (4.5 Kg.) in weight. She was seen by a pediatrician, who noted impaired resonance of the upper right lobe of the lung. On April 17, 1930, roentgenograms revealed what he considered to be active pulmonary and hilar tuberculosis. The roentgenologist was not willing to concur in a diagnosis of tuberculosis. The temperature gradually lowered, until in June the range was from 37 to 38 C. (98.6 to 100.4 F.), and it remained normal during the summer. From October to February, 1931, the range of temperature was from 37 to 37.5 C. (98.6 to 99.5 F.). In view of the negative tuberculin tests and the absence of definite physical signs of tuberculosis, this diagnosis seemed doubtful.

Attempts to correct the contractures of the knee and ankle were continued for about twelve months. On March 12, 1930, the splint was removed and moleskin traction was substituted. This in turn was discontinued in two weeks, and a brace was applied. Previous to the application of the brace a pressure sore developed on the dorsum of the foot, but later healed. An ulcerated, sloughing area appeared on the heel during the use of the brace, and moleskin traction was again applied as a substitute for the brace. In the middle of July injections of fibrolysin of 1.5 cc. each were made into the hamstring muscles, without any effect in softening this tissue. On July 22 the removal of a large crust from the region of the heel revealed ligamentous tissue. On September 27, because of cutaneous lesions, all traction was removed. Contractures gradually recurred. On Jan. 20, 1931, there was flexion contracture of 90 degrees at the knee, with a popliteal space of stony hardness, marked atrophy of the bones and soft tissue of the entire limb, erythematous, desquamating lesions on the dorsum of the foot and tightness and scarring

of the skin of the leg. The toes showed bluish-red areas which blanched easily on pressure. The knee and ankle were practically immobile in a right angle position. The pulsations of the posterior tibial and dorsalis pedis arteries were not palpable. Physical therapy, consisting of massage and baking, during the months at the Rainbow Hospital resulted in some softening of the superficial tissues. Blood counts from November to January varied from 3,550,000 to 4,060,000 red cells and from 6,000 to 10,800 white cells per cubic millimeter. The hemoglobin was from 78 to 85 per cent (Sahli). Differential counts showed a variation of polymorphonuclears from 32 to 56 per cent and of lymphocytes from 40 to 67 per cent. At one time 2 per cent of eosinophils were present. On Feb. 2, 1931, the patient returned to Lakeside Hospital, with a diagnosis of dermatomyositis, for correction of the flexion contracture at the knee.

The right leg was smaller than the left, measuring 15.8 cm. in circumference at the calf, at which point the left leg measured 18.1 cm. The circumference at the midthigh was 22.8 cm. for the right leg and 27.9 cm. for the left. The respective lengths of the right and left extremities from the greater trochanters to the internal malleoli were 47.4 and 49.4 cm. The forehead persistently showed profuse perspiration. From the popliteal space to the buttock was a long band of scar tissue. The foot was mummified, with a red, indurated, crusted lesion. The toes were cold and cyanotic. The ankle joint was fixed at 120 degrees. The knee was flexed at 90 degrees with but 5 degrees of motion. On Feb. 10, 1931, temperature readings of the surface of the skin showed the temperature of the right leg to be approximately the same as that of the left. General anesthesia made little alteration in the warmth of the right leg, which suggested that the peripheral vascular tree of the right extremity was unable to respond by dilatation. An electrocardiogram showed a normal mechanism. There was no reaction of degeneration present in the muscles. The basal metabolism was plus 40.

On Feb. 13, 1931, a wedge osteotomy of the right knee was carried out, and the part extended to within 20 degrees of complete extension. The patient made a normal postoperative convalescence (fig. 1 *B*). On February 26 she was discharged to the Rainbow Hospital. Firm bony union took place at the knee. Attempts to heal the desquamating, erythematous cutaneous lesions of the foot were alternately encouraging and discouraging, until at last it became evident that the chance of permanent healing was small. The application of baking and massage to the affected limb was continued. An increasing right dorsal, left lumbar scoliosis was noted. The lower limb was markedly atrophic through interruption of the blood supply and disease of the muscles. Accordingly, the patient was transferred to the Lakeside Hospital on Aug. 31, 1931. At this time marked improvement was noted in the condition of the muscles of the right thigh as compared to their condition six months previously. The skin was more nearly normal in appearance, gliding more freely over the underlying tissues which themselves were much softened, though the muscles of the right thigh were still slightly more fibrous than those of the opposite thigh. The popliteal space was less indurated than on the previous admission. No favorable changes, however, were noted in the leg or in the foot. During the six months at the Rainbow Hospital the patient's health had been good and her weight had increased from 36.5 to 40.75 pounds (16.5 to 18.5 Kg.). The right knee was ankylosed in 20 degrees of flexion, and the right ankle had 5 degrees of motion. The measurements of the left and right tibiae were 29.9 and 23 cm., respectively. The circumference of the ankle immediately above the malleoli was 14.6 cm. in the left leg and 12.5 cm. in the right.

On Sept. 4, 1931, under gas-oxygen-ether anesthesia, amputation of the leg at the middle of the thigh was done. Convalescence was uneventful. On the

eleventh postoperative day the patient was discharged to the Rainbow Hospital, with the wound healed *per primam*. An artificial limb was fitted, and on Nov. 30, 1931, the patient was discharged to her home and walked well.

Pathologic Report.[44]—Skin: The epithelium was thin, with a relative increase in the thickness of the cornified layer in some regions and complete absence of

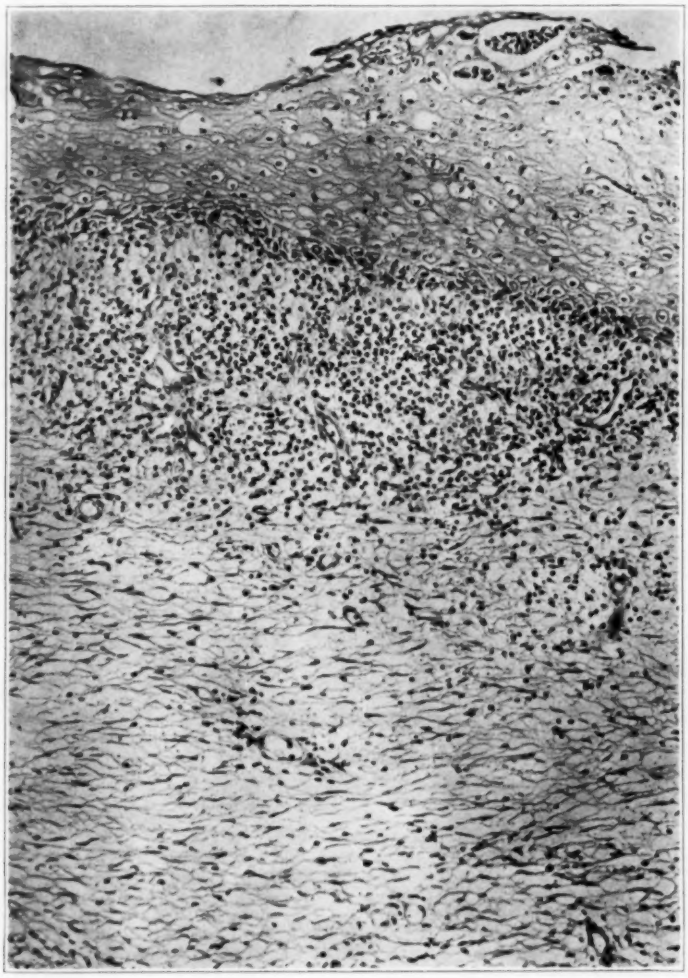

Fig. 2.—Section of skin and subcutaneous tissue; × 117. The epidermis is atrophic, and the papillae are obliterated. There is no keratinization, and the epithelial cells are the seat of some degenerative changes. The corium is diffusely infiltrated by lymphocytic and endothelial leukocytes.

keratinization in others. The absence of keratinization appeared to be due in part at least to desquamation of the superficial layers of cells and was accompanied

44. From the Institute of Pathology, Western Reserve University, by Dr. Alan R. Moritz and Dr. Burton Clark, Jr.

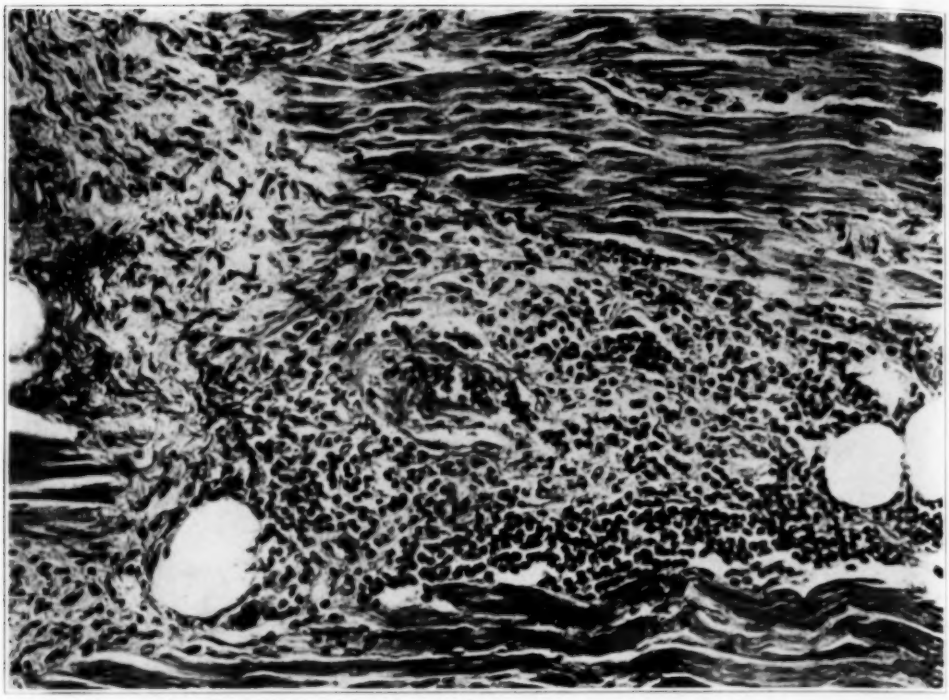

Fig. 3.—Section of the gastrocnemius muscle (× 240) including a focal inflammatory lesion around a small blood vessel with associated fibroblastic proliferation and fat infiltration.

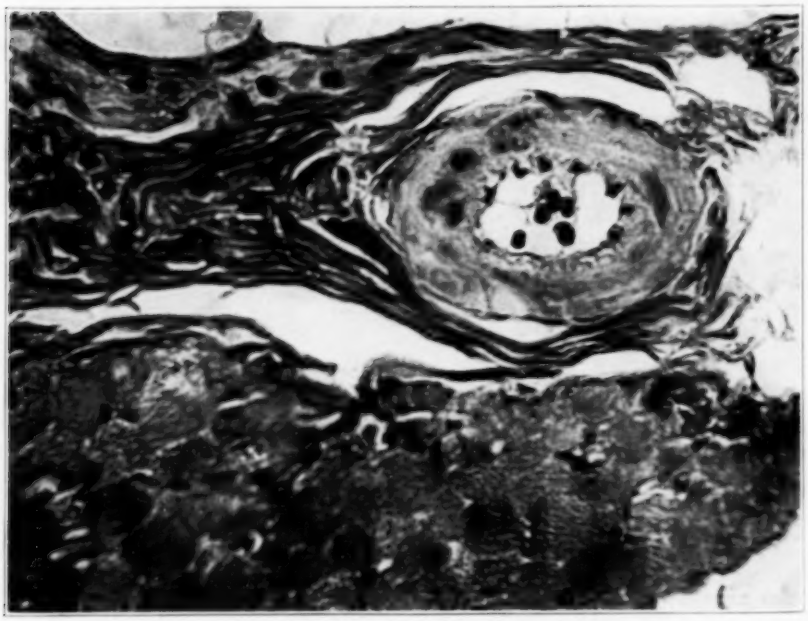

Fig. 4.—Section of muscle and thick-walled arteriole; × 580. Hyaline degeneration of proliferate endothelium.

by swelling and vesicular degeneration of the deeper layers, with atrophy and flattening of the papillae. Frequent shallow ulcers were encountered with exudate and scattered rests of intact basal epithelial cells covering the base. The corium was fibrous, in places dense with increased collagen content, and in places edematous, with diffuse lymphocytic infiltration and some new formation of blood vessels (fig. 2). There was a marked reduction in the number of hair follicles and glands, both sebaceous and sudoriferous. Vascularization was generally scanty.

Subcutaneous tissue: There was almost complete disappearance of the subcutaneous panniculus in many places, with extension of the fibrous connective tissue of the corium downward, to become continuous with the fascia of the underlying muscles.

Muscle: The fascia sheaths were thickened, and different portions of the same muscle varied in the degree of alteration. In scattered areas, the muscle was relatively normal. Distributed diffusely throughout the muscle and the intermuscular connective tissue were foci of exudative cells of various sizes and with a constant perivascular distribution (fig. 3). Frequently these exudative foci were associated with fibroblastic proliferation. The exudative cells were principally lymphocytes, with occasional endothelial leukocytes. Degenerative changes were prominent and varied from simple loss of cross-striations to complete disappearance of muscle fibers. Fat infiltration and hyaline degeneration were frequently seen. There was diffuse and focal fibrosis, the density of the tissue being accentuated by the condensation of sacrolemma nuclei.

Blood vessels: As has already been indicated, the exudation was principally perivascular. The arteries and arterioles were the seat of intimal proliferation which in some of the smaller vessels had resulted in subtotal occlusion (fig. 4). The proliferate intima was frequently the seat of hyaline degeneration. There was no evidence of thrombosis.

Nerves: There was no evidence of pathologic change, other than the perineural fibrosis.

Bones: The knee joint was immobile, and the joint cavity was obliterated by fibrous adhesions with osseous proliferation at the site of the osteotomy. The articular cartilage was atrophic with superficial absorption. The epiphyseal cartilage of the tibia was of irregular thickness, and, although epiphyseal ossification was advanced, enchondral ossification appeared stationary. The marrow of both the femur and the tibia was pink, and the trabeculae were delicate and widely separated.

Pathologic diagnosis: The diagnosis was (1) chronic dermatitis with ulceration, atrophy and fibrosis; (2) chronic focal nonsuppurative myositis, with degeneration, atrophy and fibrosis; (3) arterial and arteriolar sclerosis; (4) osteoporosis, and (5) ankylosis of the knee.

SUMMARY

A review of the literature relating to the unusual syndrome of dermatomyositis is discussed. The findings in one patient with the syndrome are reported. This case is of particular interest because of the involvement of only one lower extremity, a condition not previously reported. Although the patient was observed over a long period, no further evidence relative to the etiology of the condition could be established. Amputation of the limb was necessary and afforded an opportunity for detailed histologic study of the disease.

BOWEN'S PRECANCEROUS DERMATOSIS AND MULTIPLE BENIGN SUPERFICIAL EPITHELIOMA

EVIDENCE OF ARSENIC AS AN ETIOLOGIC AGENT

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LOS ANGELES

In 1912, Bowen [1] reported a study of two cases of chronic atypical epithelial proliferation to which he gave the designation of precancerous dermatosis. Since then, this condition has been the subject of investigation by many workers, including Darier,[2] Highman,[3] Fraser,[4] Wise [5] and others.

A great deal has been written regarding its exact status in the field of neoplastic growths, but most dermatopathologists are in accord with Fraser, who believes that "the cellular changes constituting this lesion are, from the beginning, those generally considered as characteristic of malignancy." He pointed out that pathologically "the cells in the Bowen lesion have already undergone the changes of malignant neoplasia, and for this reason the lesion should be classified as an intraepidermal carcinoma."

As Wise [5] has pointed out, a definite diagnosis of Bowen's disease cannot be made on clinical evidence, but only on characteristic microscopic changes. What then are the histologic criteria necessary to make such a diagnosis? Briefly stated, they consist of hyperkeratosis and acanthosis. The acanthotic epidermis presents large cells with deformed nuclei, monstrous multinucleated cells, numerous mitoses, disordered polarity, irregularity in the size and shape of the cells,

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Read before the Section on Dermatology and Syphilology at the Sixty-First Annual Session of the California Medical Association, May 5, 1932.

Dr. E. M. Butt of the Department of Pathology of the University of Southern California Medical School cooperated in the preparation of the slides.

1. Bowen, J. T.: Precancerous Dermatoses: A Study of Two Cases of Chronic Atypical Epithelial Proliferation, J. Cutan. Dis. **30**:241, 1912.

2. Darier, J.: La dermatose precancereuse de Bowen, Ann. de dermat. et syph. **5**:449, 1914-1915; Le cancer de la dermatose precancereuse de Bowen, ibid. n.s. **1**:49, 1920.

3. Highman, W. J.: Precancerous Dermatoses, J. Cancer Research **1**:343, 1916.

4. Fraser, J. F.: Bowen's Disease and Paget's Disease of the Nipple: Their Relation to Dyskeratosis, Arch. Dermat. & Syph. **18**:809 (Dec.) 1928.

5. Wise, F.: Multiple Superficial Benign Epithelioma of the Skin: Its Differentiation from Kindred and Similar Eruptions, Arch. Dermat. & Syph. **19**:1 (Jan.) 1929.

irregularity in the staining qualities of the nuclei, together with large cells having a vacuolated cytoplasm strewn with granules of chromatin. In regard to the histologic changes in Bowen's disease, it may be remarked that practically every author who has written on the subject has commented on the often striking histologic similarity with the microscopic changes in arsenical keratoses (Bowen, Darier, Fraser, Wise and others).

REPORT OF A CASE

CASE 1.—G. C., a white man, aged 75, was first seen on Sept. 22, 1931, complaining of multiple ulcerations of the right lower extremity. These ulcerations had been present for about one month.

The past history revealed that the patient had had typhoid fever in 1905, that about sixty years ago he had taken a solution of potassium arsenite over an unknown period of time, and that approximately twenty years ago he had an "eczema" of the legs. This "eczema" had remained confined to the legs, and especially the right leg, for many years. The patient believed that the skin condition which he presented on the dorsum of the left foot had been present for at least ten years. All of these "eczematous" lesions had remained dry and scaly until one month ago, at which time several of them had become superficially infected.

On examination, the inner aspect of the lower part of the right calf presented a half palm-sized ulcerated area, the edges of which were superficially ulcerated and the center composed of a dollar-sized granulomatous mass. Elsewhere on the lower part of the right leg, and about the right heel especially, there were numerous small to large superficially ulcerated impetiginous lesions.

The entire dorsum of the left foot was covered with a markedly hyperkeratosic, erythematous moderately raised palm-sized lesion, having serpiginous borders. Numerous crusts were present.

The chest revealed numerous seborrheic keratoses. On the face were many senile keratoses, and there were small, hard, warty keratoses on the palms and backs of the hands and on the soles of the feet. On the back and buttock were numerous coin-sized plaques clinically typical of superficial epitheliomas, the largest of which was about the size of a fifty cent piece. The right groin presented a cutaneous horn about 1¼ inches (3.1 cm.) long.

A diagnosis of pyoderma superimposed on syphilitic gummatous lesions was made, and also of multiple superficial benign epitheliomas, arsenical keratoses of the palms and soles and cutaneous horn.

Under mild antiseptic treatment, the superficial impetiginous-like lesions rapidly cleared. Both the Wassermann and Kahn tests were negative. An arsenic test of the urine by the Gutzeit method revealed 0.00025 mg. of arsenic per hundred cubic centimeters. Microscopic and cultural studies for a possible fungus were negative.

Microscopic Examination.—A piece of tissue was removed from the lesion on the dorsum of the left foot. The histology (figs. 1 and 2) was characteristic of Bowen's disease, the main features of which have already been pointed out. The history of arsenical medication many years previously, the presence of arsenic in the urine and the distinct tendency of the patient to develop lesions of a hyperkeratosic type (cutaneous horn, arsenical keratoses of the palms and soles and the hyperkeratosic nature of the lesions on the lower legs) prompted a searching examination of the tissue removed for the presence of arsenic. This was done

according to the method of Osborne [6] and the sections submitted to him for examination. He reported [7] the presence of definite but "small amounts of arsenic trisulphide in the papillae in the corium."

The question naturally arises as to the significance of this finding. In a rather thorough review of the literature on Bowen's disease, I have been able to find only one case in which a history of arsenical medication was mentioned. This was in Fraser's [4] case 1, in which the patient at the age of 7 had developed chorea, for the relief of which

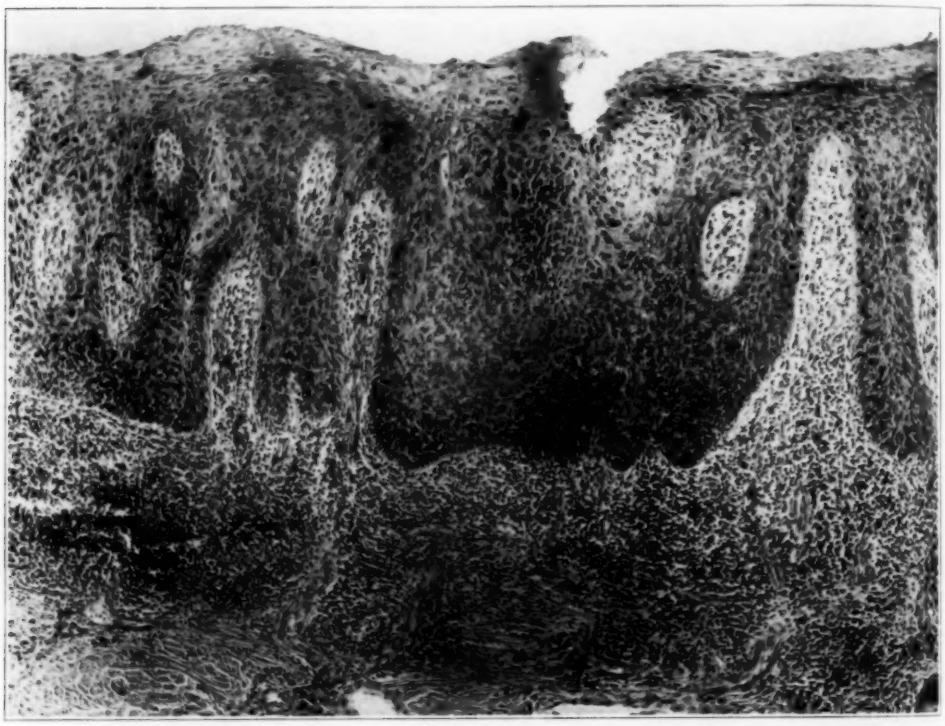

Fig. 1.—Section from lesion on the dorsum of the foot, showing acanthosis, parakeratosis (the hyperkeratosic crust having been removed accidentally). The acanthotic epidermis presents large cells with deformed nuclei, numerous mitoses, disordered polarity and large vacuolated cells.

arsenic had been administered at irregular intervals over a period of twelve years. Curiously enough, Fraser made no comment on this fact in his paper. However, when Fraser's case 1 was presented before the

6. Osborne, E. D.: Microchemical Studies of Arsenic in Arsenical Pigmentation and Keratoses, Arch. Dermat. & Syph. **12**:773 (Dec.) 1925.

7. Osborne, E. D.: Personal communication.

New York Dermatological Society, neither Fraser nor Highman [7a] felt that arsenic had anything to do with the condition. Martinotti [8] regarded the first case reported by Bowen as one of epithelioma developed from arsenical keratosis implanted on a chronic eczema. In

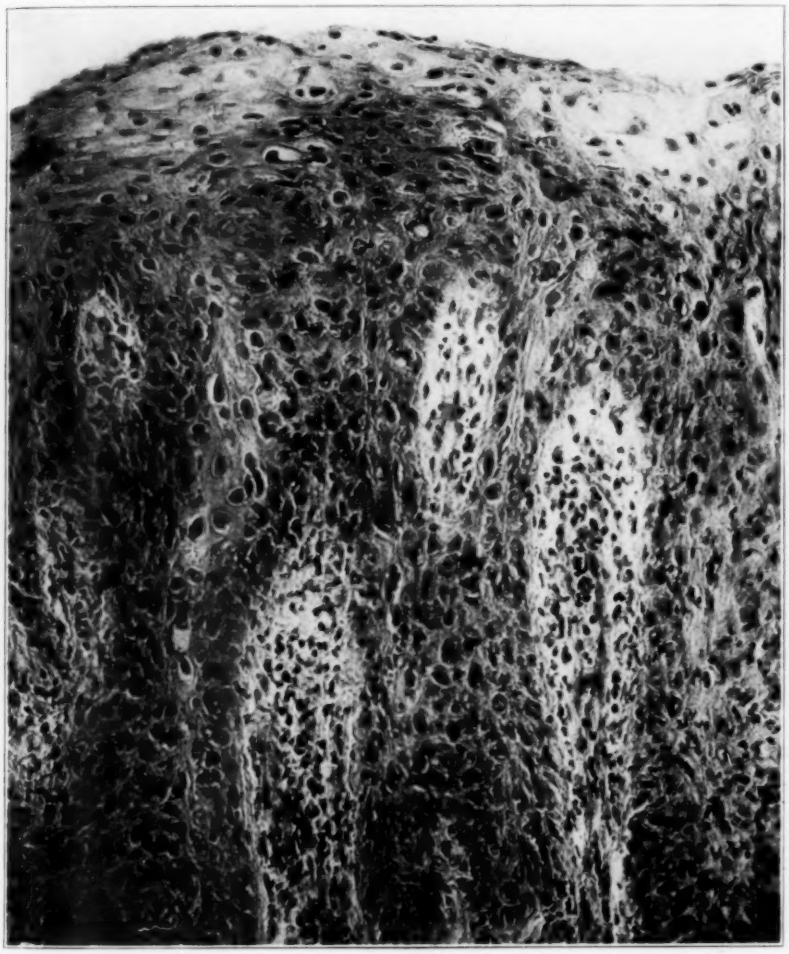

Fig. 2.—High power view of portion of figure 1.

Bowen's three cases, however, no mention was made of the ingestion of arsenic, nor was the presence or absence of arsenical keratoses on the palms or soles noted. One of the patients was a weaver by trade,

7a. Fraser, J. F., and Highman, W. J., in discussion on Fraser: Bowen's Precancerous Dermatoses, Arch. Dermat. & Syph. **16**:518 (Oct.) 1927.

8. Martinotti, L.: Bowen's Precancerous Dermatosis, Gior. ital. d. mal. vén. **63**:182 (May) 1922; abstr., Arch. Dermat. & Syph. **7**:112 (Jan.) 1923.

the second, a cooper, and the third, a druggist. The condition of the palms and soles was likewise not mentioned in the three cases reported by Darier.

However, the following facts do seem pertinent to the question. Arsenic has long been recognized as the etiologic agent in the production of arsenical keratoses. Its presence in such keratoses has been established by the microchemical studies of Brünauer [9] and Osborne.[6] Again, the occurrence of arsenical epithelioma, prickle cell in type, has been known since the days of Jonathan Hutchinson. Admirable articles have been written by Hartzell,[10] Wile [11] and others. Practically all investigators into the realm of arsenical epithelioma have concluded that all such cancers were prickle cell in type and probably always arose on a preexisting arsenical keratosis. However, from time to time, cases of basal cell carcinoma, more frequently of that type designated as multiple benign superficial epithelioma, have been reported, usually but not always in persons with psoriasis, who have ingested more or less considerable amounts of arsenic. But with the exception of the case to be reported, no microchemical studies after the method of Osborne have been performed in these cases. One cannot help but be profoundly impressed by the rather frequent presentation of patients with arsenical keratoses of the palms and soles, or patients with a history of ingestion of arsenic or with a psoriatic background (either correctly or mistakenly diagnosed) who present clinical lesions of multiple benign superficial epitheliomas.

In the present case mention was made of multiple nickel-sized and larger erythematosquamous lesions on the back and buttock which clinically were superficial basal cell epitheliomas. Unfortunately, no section was taken from this type of lesion. In Bowen's third case,[12] there was present a basal cell epithelioma (histologic diagnosis). Fraser commented on this but concluded that it was an unrelated tumor. Strangely enough, in Fraser's case 2, there was a lesion on the left breast which, while presenting a similar clinical appearance to the other lesions, was histologically a basal cell epithelioma. Wise also has commented on this situation, saying "as to the arsenical keratodermas and arsenical epitheliomas, I have encountered two instances in which the multiple

9. Brünauer, S. R.: Arsenic Found Microchemically and Histologically in a Case of Hyperkeratosis Arsenicalis, Arch. f. Dermat. u. Syph. **129**:186, 1921; abstr., Arch. Dermat. & Syph. **4**:821 (Dec.) 1921.

10. Hartzell, M. B.: Epithelioma as a Sequel of Psoriasis and the Probability of Its Arsenical Origin, Am. J. M. Sc. **118**:265, 1899.

11. Wile, Udo J.: Arsenical Cancer, with Report of a Case, J. Cutan. Dis. **30**:192, 1912.

12. Bowen, J. T.: Precancerous Dermatosis: A Sixth Case of a Type Recently Described, J. Cutan. Dis. **33**:787, 1915.

lesions strongly simulated those described in multiple benign epithelioma, Bowen's and Paget's diseases."

Montgomery, in the discussion of Wise's paper, made the rather positive statement that "epitheliomas arising from the administration of arsenic in any form should not be confused with the superficial epitheliomas . . . microscopically, they are extremely malignant squamous cell epitheliomas usually resulting in early metastases and death." Tommasi [13] reported a typical case of Bowen's disease associated with other multiple lesions of superficial epitheliomas.

MULTIPLE BENIGN SUPERFICIAL EPITHELIOMAS

Hartzell,[10] in presenting a fatal case of arsenical epithelioma, mentioned that "on the left breast was an irregularly oval crusted patch which was just beginning to ulcerate in small areas."

In 1906, Schamberg [14] reported on the presence of multiple cancers of the skin and keratosis following the long continued use of arsenic. His patient, a psoriatic, had taken a solution of potassium arsenite at intervals for twenty-five years. "The entire trunk, but particularly the posterior aspect, was the seat of numerous pin-head to pea and finger-nail sized keratosic patches; these were covered with a rough and somewhat thickened corneous layer. Some of the patches had a pigmented brownish hue." In the light of present day knowledge, it is probable that these were lesions of multiple superficial epitheliomas. The palms of his patient were dry, rough, hyperkeratosic and showed wartlike patches.

Wende,[15] in 1908, reported before the American Dermatological Association a case of keratosis follicularis (Darier's disease) resulting in multiple epithelioma. His patient, a man, aged 37, had first noted warty lesions of the palms and soles at the age of 17. When first seen by Wende, he had one hundred and seven epitheliomas, all but two of these being situated on the trunk. More than one hundred of the lesions were of the superficial discoid variety, and the diagnosis of epithelioma was proved in twenty-five of the lesions by microscopic examinations. As there was no history of ingestion of arsenic, Wende believed that arsenic could be excluded as a causative factor. The picture published by Wende, as well as his description, leave no doubt to an impartial

13. Tommasi, L.: Report of a Case of Bowen's Disease, Gior. ital. di dermat. e sif. **67**:925 (June) 1926; abstr., Arch. Dermat. & Syph. **14**:585 (Nov.) 1926.

14. Schamberg, J. F.: Multiple Cancer of the Skin and Keratosis Following the Long Continued Use of Arsenic: Multiple Ulcerations of the Skin After Protracted Use of the Same Drug, J. Cutan. Dis. **25**:*26*, 1907.

15. Wende, G. W.: Keratosis Follicularis, Resulting in Multiple Epithelioma: Report of a Case, J. Cutan. Dis. **26**:531, 1908.

observer that the palmar lesions were plainly those of arsenical keratoses, and the trunk lesions, those of a type that today are called multiple superficial epithelioma. There is not the slightest resemblance of Wende's case to keratosis follicularis (Darier's disease), a fact that Darier has pointed out. His histologic pictures also correspond to those of arsenical keratoses with the presence of dyskeratosic cells, and the epithelioma shown would be regarded today as one of a basal-squamous variety.

In 1914, Fordyce and MacKee [16] presented a patient with multiple basal cell epithelioma on the trunk, arms and legs, hyperkeratosis of the palms and arsenical pigmentation. The lesions on the trunk were almost flat, pale red, slightly scaly and had a perceptible rolled pearly margin. In their case there was a history of ingestion of arsenic more or less constantly for fifteen years. MacKee at that time raised the question as to arsenic being an etiologic factor in basal epithelioma.

Oliver,[17] in 1923, presented a patient with arsenical keratosis on the palmar and dorsal surfaces of the hands and four or five epitheliomas on the back. Little,[18] in the same year, in his classic paper on "Erythematoid Benign Epithelioma," mentioned "a curious frequency of a history of psoriasis in several cases reported." He concluded, however, that the association was probably accidental. In none of Little's seven cases was there any mention as to a history of ingestion of arsenic, nor was there any reference as to the condition of the palms and soles.

Schwartz and Busman [19] presented a patient whose "palms and soles showed small warty keratoses." Their patient had taken arsenic for the relief of psoriasis. "Scattered throughout the chest, abdomen and back were several various sized reddish, slightly scaly lesions some of which showed a definite pearly border." Biopsy from a small lesion on the back showed basal cell epithelioma. Wile, in the discussion, said that most of the lesions over the chest and back appeared to be superficial epitheliomas of the Bowen type.

Ormsby and Mitchell [20] presented a patient with multiple superficial epitheliomas. In the discussion, the association of such lesions with

16. Fordyce, J. A., and MacKee, G. M.: Arsenical Epithelioma, J. Cutan. Dis. **32**:446, 1914.

17. Oliver, E. A.: Arsenical Keratosis (?), Arch. Dermat. & Syph. **8**:267 (Aug.) 1923.

18. Little, E. G. Graham: Erythematoid Benign Epithelioma, Brit. J. Dermat. **35**:435 (Dec.) 1923.

19. Schwartz, L. L., and Busman, G. J.: Multiple Superficial Epitheliomas, Arch. Dermat. & Syph. **10**:645 (Nov.) 1924.

20. Ormsby, O. S., and Mitchell, J. H.: Multiple Superficial Epitheliomas, Arch. Dermat. & Syph. **12**:144 (July); 426 (Sept.) 1925.

psoriasis was mentioned by Ormsby, Pusey and Senear. The case presented had always been treated as psoriasis.

The following year, Levin [21] presented a patient who had had psoriasis for twenty years and also syphilis. He had taken much arsenic by mouth and by injection. Basal cell epitheliomas were present (proved by biopsy). Arsenical keratoses of the palms and soles were also present, while the lesions on the trunk corresponded to benign superficial epitheliomas.

Pfahler [22] presented a patient with a hundred or more typical epitheliomas. Two lesions histologically were basal cell in character, one was squamous cell in type and a third lesion was a mixed type. The patient gave a history of taking drops as a young man.

Lane,[23] of St. Louis, under the diagnosis of Bowen's disease, presented a patient who gave a history of a chancre thirty-five years previously. Oral medication had been employed. "The patient had five definitely demarcated lesions on the trunk. The color varied from a deep red to a light brown. The inner zones showed atrophy whereas the borders showed definite raised irregular borders, the thickness of a darning thread." In the discussion, Brown made a diagnosis of multiple epitheliomas of the skin, while Kring and Brockelmann regarded the condition as Paget's disease.

Stillians [24] presented a patient with typical arsenical keratoses of the palms and soles, a fungating epithelioma on the left index finger, a fungating lesion on the upper part of the back, a flat epithelioma on the right side of the forehead and several patches of superficial epithelioma on the trunk. Another patient presented by Stillians [25] had had psoriasis since the age of 14 years. He had taken arsenic for two years about thirty years before presentation. "In addition to many patches of psoriasis, he presented on the trunk, several flat, slightly infiltrated, brownish red plaques, finely polycyclic in outline with a rough surface and at the border in many places tiny flat papules forming a limiting line." Senear, in the discussion, said that he had seen four patients with psoriasis in whom the benign type of epitheliomatosis was present. He thought that in this particular case arsenic had no relation to the

21. Levin, O. L.: Skin Manifestation from Arsenic, Arch. Dermat. & Syph. **13**:569 (April) 1926.

22. Pfahler: Multiple Epitheliomas, Arch. Dermat. & Syph. **15**:213 (Feb.) 1927.

23. Lane, C. W.: Bowen's Disease, Arch. Dermat. & Syph. **20**:137 (July) 1929.

24. Stillians, A. W.: Epithelioma (Multiple): Keratosis (Arsenical), Arch. Dermat. & Syph. **22**:1085 (Dec.) 1930.

25. Stillians, A. W.: Psoriasis, Arsenical Dyskeratosis, Multiple Epithelioma, Arch. Dermat. & Syph. **23**:377 (Feb.) 1931.

disorder. Stillians mentioned the fact that he had one or two patients with arsenical keratosis on the hands who "showed this form of keratosis elsewhere."

Doty,[26] under a diagnosis of Bowen's disease, presented a patient who had had psoriasis since the age of 15 years; at the age of 29 he had taken large doses of potassium arsenite, and during the three years previous to presentation had taken 30 pints of "psoriasis medicine," a proprietary product. No biopsy was recorded, but Parkhurst, in the discussion, remarked that he could find no arsenical keratoses and that the condition had the appearance of benign superficial epitheliomas.

In a case of multiple epitheliomatosis presented by Gross,[27] there were three lesions of epithelioma on the face. "On the body were two types of lesions, the first was a yellowish slightly elevated tumor of waxy appearance, the size of a small bean; the second was a larger, flat, reddish, slightly scaly patch with distinct atrophy and with a fine thread-like pearly ridge at the border." The patient had taken a solution of potassium arsenite for a long time, and arsenic was suggested by Gross as an etiologic factor. There were no other evidences of arsenic sequelae. Histologic study revealed typical basal cell epithelioma. In the discussion, neither Traub nor Abramowitz felt that arsenic had anything to do with the case.

Cheever [28] presented a patient who had had psoriasis since childhood. There was a lesion of the left nipple with multiple epitheliomas on the upper part of the chest. The lesion on the nipple simulated Paget's disease.

Recently Andrews [29] came close to a solution of the question in presenting a case which histologically was multicentric basal cell carcinoma. His patient gave a history of ingestion of arsenic at 15 years of age and subsequently. Arsenic to the extent of 0.065 mg. per hundred grams of solid, before injection of sodium thiosulphate, and 0.108 mg. per hundred grams of solid after injection of sodium thiosulphate, was found. Howard Fox, in the discussion, did not think that any one could prove that these epitheliomas were due to arsenic.

Again, Montgomery,[30] in his excellent discussion on "Superficial Epitheliomas," concluded that "superficial epitheliomas, secondary to

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26. Doty, C. A.: Bowen's Disease: Hyperpigmentation Due to Arsenic, Arch. Dermat. & Syph. **23**:585 (March) 1931.

27. Gross, Paul: Multiple Epitheliomatosis, Arch. Dermat. & Syph. **23**:1132 (June) 1931.

28. Cheever, A. W.: Psoriasis: Multiple Epitheliomas, Arch. Dermat. & Syph. **23**:1189 (June) 1931.

29. Andrews, G. C.: Multiple Epitheliomas (Arsenical), Arch. Dermat. & Syph. **25**:572 (March) 1932.

30. Montgomery, H.: Superficial Epitheliomatosus, Arch. Dermat. & Syph. **20**:339 (Sept.) 1929.

other causes such as arsenic, should not be confused with superficial epitheliomatosis" and "that there is no apparent relationship between either Bowen's disease or extramammary Paget's disease and superficial epitheliomatosis." No mention was made of any microchemical studies for arsenic in any of Montgomery's cases, nor was mention made of the condition of the palms and soles. In fact, he arbitrarily excluded any case presenting arsenic as a possible etiologic factor. It is interesting to note, however, that one of his eighteen patients had psoriasis.

Nevertheless, one must be impressed by the foregoing group of cases, probably all superficial epitheliomas in type, in which a history of ingestion of arsenic or a history of psoriasis was obtained and the presence in several of the cases of arsenical keratoses of the palms and soles. The presentation and discussion of such cases by competent observers in practically every dermatologic society in this country is certainly not merely a coincidence.

REPORT OF CASES

CASE 2.—J. E., a Mexican, aged 51, was first seen on April 30, 1931, complaining of multiple lesions of the chest and back of seven years' duration. Scattered over the chest and back (fig. 3) were from seven to ten dime-sized and larger, slightly raised, erythematous scaly lesions, several of which had a small threadlike border and one or two possessed an atrophic slightly depressed center.

A diagnosis of multiple benign superficial epithelioma was made and several of the lesions treated by freezing with carbon dioxide snow. At that time apparently no examination was made of the palms and soles, nor was the possible causation by arsenic considered.

However, the patient was again contacted recently, and, on closer examination, typical arsenical keratoses of the palms and soles were found. The patient, an uneducated but intelligent Mexican laborer, was asked if he had any idea as to the causation of these "warts." He replied, "Certainly, they are due to arsenic. I have had them for thirty years. As a boy of 14 I worked for five years in the mines, and following that eight years in the smelter in Mexico. Every one in this mining community who works in the mines or smelter has the same thing."

Histologic Examination.—Two large pieces of the lesion on the left breast of the patient in case 2 were removed by the punch, and also a piece of apparently normal skin adjacent to the edge of the lesion. These were stained by hematoxylin-eosin and also by Osborne's microchemical method. The "normal" skin revealed a very few crystals of arsenic trisulphide. However, a few but definitely more crystals of arsenic trisulphite were present in sections of both pieces removed from the lesion on the chest. These were mainly situated in the upper corium, but a few were also in the epidermal elements. The histology was that of a superficial basal cell epithelioma with a few dyskeratosic changes.

Examination of the urine for arsenic after the injection of 1 Gm. of sodium thiosulphate was negative. A second examination for arsenic after three injections of 1 Gm. each of sodium thiosulphate was also negative.

CASE 3.—An Italian waiter, aged 70, was seen on April 19, 1932, at a time when this paper had been completed. He complained of a lesion on the forehead

which had been present for five or six years. This began as a little "pimple" covered by a scab. The scab would fall off and then form again. During all this time the lesion had been gradually growing larger.

On examination, there was a slightly raised, quarter-sized, flat, brownish-red, lesion on the upper part of the forehead. This lesion was covered with thin crusts. Numerous small pinhead-sized glistening papules were present in about one half of the lesion. Clinically, the condition was a flat type basal cell epithelioma. There were no other lesions on the trunk except a few typical seborrheic keratoses. The palms and soles presented small but definite arsenical keratoses. Prior to this

Fig. 3.—Multiple superficial benign epithelioma occurring in a patient with arsenical keratoses of the palms and soles.

study, I believe that the lesions on the palms and soles would have been entirely overlooked.

The patient believed that the keratoses of the palms and soles had been present only two years, and, on questioning, was quite certain that the lesion on the forehead preceded those on the palms and soles. He thought that he might have taken arsenic seventeen or eighteen years ago as a tonic following a nervous breakdown, but was not sure of having done so. He had never worked in a mine, smelter, wall paper or paint factory or any other occupation or trade in which he knowingly had had any contact with arsenic.

Histology.—A portion of the lesion on the forehead was excised. Sections stained by hematoxylin and eosin revealed a typical basal cell carcinoma.

An arsenic test of the urine after one injection of sodium thiosulphate, revealed 0.007 mg. of arsenic per hundred cubic centimeters.

COMMENT

It seems entirely plausible from the findings in the case of Bowen's disease, e. g., the history of arsenical medication, the presence of arsenic in the tissue and urine, the suggestive simultaneous occurrence of lesions that were clinically multiple benign superficial epithelioma, the presence of a cutaneous horn, the hyperkeratosic lesions on the legs, the palmar and plantar arsenical keratoses, that one and only one etiologic agent is responsible for such findings, namely, arsenic.

It is rash to draw conclusions from one case, but the findings in this case of Bowen's disease suggest that in the future other cases of Bowen's disease, cases of multiple benign superficial epithelioma and possibly even cases of Paget's disease of the nipple should be thoroughly investigated with a view to the rôle played by arsenic. This should include not only a careful questioning as to the possible ingestion of arsenic, but microchemical studies of tissue removed, after the method of Osborne, and search for arsenic in the blood and urine, both before and after the injection of sodium thiosulphate, and, needless to say, an examination of the palms and soles.

It is the first time, as far as I know, that arsenic has been actually demonstrated in the tissue in a case of multiple benign superficial epithelioma. That arsenic should play a causative rôle in this type of skin cancer has certainly been suggested many times. The multiplicity of the lesions speaks for a common etiologic agent. The frequent history of ingestion of arsenic, the often simultaneous presence of arsenical keratoses of the palms and soles, the fact that some of these patients actually have psoriasis and have been treated for it, that in others the condition has been mistakenly diagnosed as psoriasis and treated as such, all speak in favor of arsenic as the etiologic agent.

Clark [31] has called attention to the fact that in some patients arsenical manifestations develop many years after any seemingly possible arsenical exposure. Also, the absence of other arsenical manifestations in cases of multiple benign epithelioma is certainly not a point against its arsenical causation.

The suggestion is made here, notwithstanding the fact that absolute proof is lacking, that both Bowen's disease and multiple benign superficial epitheliomas are the result of arsenic. It is entirely conceivable that arsenic in one person may give rise to keratoses of the palms and

31. Clark, S., in discussion on Fraser: Bowen's Precancerous Dermatosis, Arch. Dermat. & Syph. **16**:519 (Oct.) 1927.

soles, in another to multiple superficial epitheliomas and in a third to that condition designated Bowen's disease. It is possible that Bowen's disease represents a further or more advanced stage of multiple benign epithelioma or is a variant of that disorder, and that the occurrence of frank infiltrating malignant epithelioma, which took place in four of seven of the first recorded cases of Bowen's disease, was the result of continued irritation and stimulation from arsenic. In Ormsby and Mitchell's [32] case of superficial epithelioma, which has already been referred to, and which had always been treated as a psoriasis, there was the subsequent development of a frank malignant condition with metastases to the axilla and internal organs. A point heavily in favor of the view that Bowen's disease and multiple epithelioma bear a relationship to each other of brother and sister, or at least first cousins, is their simultaneous occurrence in several of the cases of Bowen's disease so far reported. This "coincidence" occurred in Bowen's third case, in Fraser's second case (histologic proof in both cases), in Tommasi's case, in the first case of Arzt and Biach,[33] which clinically was one of multiple epithelioma and histologically one of Bowen's disease, and in the case here presented. The multiplicity of lesions in both conditions, the occasional supervention of frank malignancy in both diseases and finally their simultaneous occurrence in several of the reported cases all testify that the relationship they bear to each other must be intimate and suggest that whatever agent is responsible for the one condition is also responsible for the other.

CONCLUSIONS

1. A case of Bowen's disease in which there were coincident multiple benign superficial epitheliomas is described in which the history of ingestion of arsenic, the occurrence of arsenic in the tissue as determined by special stains and the presence of arsenic in the urine all point to arsenic as being a plausible etiologic agent.

2. Two cases of benign superficial epithelioma, one multiple and the other single, both accompanied by arsenical keratoses of the palms and soles, are described, in one of which arsenic was demonstrated in the lesion.

3. The probable relationship of Bowen's disease to multiple benign epithelioma is discussed, and the suggestion is made and strong evidence presented to show that arsenic is the etiologic agent in both conditions.

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32. Ormsby, O. S., and Mitchell, J. H.: Superficial Epitheliomatosus with Metastases, Arch. Dermat. & Syph. **13**:687 (May) 1926.

33. Arzt, L., and Biach, M.: Bowen's Disease, Arch. f. Dermat. u. Syph. **148**: 635, 1925.

NIRVANOL ERUPTIONS

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Many drugs cause eruptions, but few always produce cutaneous manifestations accompanied by a definite symptom complex after they have been administered for a certain fixed time and in exact amounts.

Nirvanol, a new preparation used in the treatment of chorea, fulfils these conditions. This compound has been generally employed in Europe, especially in Germany, but little has appeared in the American literature pertaining to its use and to the eruption that it evokes.

The dermatologic significance of nirvanol will be the primary concern of this report, and factors other than those that interest the dermatologist will not be considered.

History.—Wernecke [1] and others introduced phenylethylhydantoin as a sedative under the trade name of "nirvanol" in 1916. It was originally used in epilepsy and in other nervous and mental disorders, both as a hypnotic and as a sedative. It was later discarded because of the frequency of "nirvanol sickness," which occurred when the drug was used over a prolonged period.

Roeder [2] recommended nirvanol in the treatment of chorea in 1919. In chorea, relatively small doses were used, and successful results were not attributed to a hypnotic or sedative effect, but to a specific reaction that occurred after several days of oral administration.

Poynton,[3] East [4] and others have used nirvanol in the treatment of acute and subacute rheumatism since 1929. They reported cases of rheumatic nodules of long standing that disappeared rapidly after a course of therapy with nirvanol; also the existing pyrexia and mild tachycardia were terminated in other cases.

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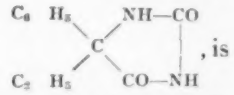
1. Wernecke, E.: Phenyläthylhydantoin (Nirvanol), ein neues Schlaf- und Beruhigungsmittel, Deutsche med. Wchnschr. **42**:1193, 1916.

2. Roeder, Frieda: Ueber die Anwendung von Schlafmitteln in der Kinderheilkunde, mit besonderer Berücksichtigung des Nirvanols, Therap. Monatschr. **33**: 54, 1919.

3. Poynton, F. John, and Schlesinger, Bernard: Treatment of Chorea by Nirvanol, Lancet **2**:267 (Aug. 10) 1929.

4. Schlesinger, Bernard; Poynton, F. J., and East, Terrence: Discussion on the Use of Nirvanol in the Treatment of Chorea, Proc. Roy. Soc. Med. (Sect. Therap.) **23**:6, 1930.

Ray and Cunningham [5] introduced nirvanol to American physicians in an article written in 1930. Since that time the drug has been generally employed in the United States in the treatment of Sydenham's chorea.

The Drug.—Phenylethylhydantoin or nirvanol,  , is formed by the combination of phenylethyl glycollic acid and urea. It forms colorless, odorless, tasteless crystals that are not readily soluble in water. The drug is marketed in 5 grain (0.325 Gm.) tablets.

The principal differences between the hydantoins and barbituric acid derivatives lie in their chemical structures and chemotherapeutic actions. Pharmacologic experiments by Wernecke showed that nirvanol produced a hypnotic effect of nearly the same intensity as phenobarbital. He thought that nirvanol was much less toxic than any of the barbital compounds then in common use as sedatives, because it produced less irritation of the tissues and less renal epithelial destruction in animals. A lethal dose of nirvanol caused no drop in blood pressure or collapse. In large doses the barbitals caused complete collapse and extremely low subnormal temperatures, which lasted for several hours, until the animals awakened or died in a stupor. This was not noted when nirvanol was given in equivalent amounts.

Leichtentritt [6] and his colleagues performed extensive experiments with nirvanol on animals. They found that oral administration to rabbits caused marked leukopenia, with relative lymphocytosis. If the drug was administered over a long period, the bone-marrow became seriously affected, and an aleukemia was produced that closely resembled that occurring in poisoning due to arsphenamine and to excessive use of roentgen rays or radium.

Action and Pathology.—De Rudder [7] likens the reaction of nirvanol to that of serum sickness. Both diseases have a like incubation period and appear with known punctuality. Nirvanol sickness, like serum sickness, occurs after a period that is sufficient for the production of an amboceptor. He cites experiments to show that the chemometabolic processes occurring in serum sickness and in nirvanol sickness are due to the same mechanism, so that the assumption seems justified that

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5. Ray, Hartzell H., and Cunningham, John S.: Phenylethylhydantoin in the Treatment of Sydenham's Chorea, Am. J. Dis. Child. **39**:1205 (June) 1930.

6. Leichtentritt, B.; Lengsfeld, W., and Silberberg, M.: Pro und Contra Nirvanol, Jahrb. f. Kinderh. **122**:12, 1928.

7. de Rudder, B.: (*a*) Die Nirvanol-Anaphylaxie, Ztschr. f. Kinderh. **42**:361, 1926; (*b*) Die "Nirvanolkrankheit." Eine anaphylaktische Reaktion vom Typus der Serumkrankheit, Klin. Wchnschr. **5**:1522, 1926; (*c*) Die Nirvanoltherapie der Korea minor, Therap. d. Gegenw. **69**:170, 1928.

nirvanol assumes a direct or indirect antigenic character. A possible contradiction is that continuous medication is necessary for nirvanol sickness, while serum sickness can appear after a single injection of the antigen. This can be explained in the following manner: If the antigen and antibodies are to produce an anaphylactic reaction, the antigen must be present in sufficient amounts in the body. A colloid, such as a strange serum, cannot be excreted from the body, but remains until it is completely destroyed. With a crystalloid like nirvanol the mechanism is entirely different. Nirvanol is always excreted in certain amounts during the entire period of administration; therefore, the nirvanol level must be maintained by continued ingestion. Serum can be given in a single large dose, while nirvanol must be given in successive small doses because of its strong sedative action in addition to its rôle as an antigen. A single dose of nirvanol large enough to produce antigen would produce severe poisoning.

In nirvanol and serum sickness most observers feel that there is an alteration in the acid-base equilibrium of the blood. At first there is an alkalosis approaching a preanaphylactic tetany. The peripheral nerves share in the general stimulation, and this, no doubt, accounts for the temporary aggravation of the choreic movements. At the moment of the eruption the alkalosis is changed into an acidosis, and it is presumably this sudden alteration, which, de Rudder claimed, has such a marked effect on the central nervous system.

Poynton stated that the usual effect of nirvanol appears to be absent in certain patients, and it is interesting to note that they are also resistant to the various serums that in other people would produce anaphylactic phenomena.

Dosage.—Most observers recommend 0.3 Gm. (5 grains) for younger children and 0.6 Gm. (10 grains) for older children. The dosage and duration of nirvanol treatment recommended are surprisingly uniform. The patients are given from one to three doses a day for from seven to twelve days. The drug is stopped as soon as fever or eruption appears. If neither has appeared by the twelfth day, it is useless, and even dangerous, to continue with this form of therapy.

Symptoms.—The symptoms usually appear with clocklike precision. On the second or third day after the administration of nirvanol is begun, the choreic movements are markedly aggravated. These are soon followed by sedative effects. Fever generally develops from the seventh to the ninth day, reaches a maximum in twenty-four hours and subsides during the next day or two. If the drug is continued, the fever is prolonged.

The eruption generally appears between the ninth and the twelfth days. The distribution varies, but the first lesions, as a rule, appear on the abdomen or chest. The first faint pink macules look surprisingly

like the "rose spots" of typhoid fever. The lesions are discrete and tend to remain so throughout the eruption. The erythematous blotches become brighter, and the macules enlarge and become elevated in the course of a day or two. The eruption appears suddenly and in a few hours involves the extremities and other parts of the trunk. It is most marked on the extensor surfaces of the arms, especially about the elbows. Here the eruption may appear as a flaming red sheet of erythema. Figure 1 illustrates the more marked involvement of the region about the elbow, where a confluent, bright red, erythematous eruption occurred, while the lesions on the rest of the body look like measles. In cases in which the difference is not so marked, the lesions on the extensor surfaces of the arms are usually much larger than those on the rest of the cutaneous surface. Poynton stated that the eruption is nearly always present on the dorsa and soles of the feet; however, this feature was not observed in our cases.

Fig. 1.—Showing distribution of the eruption in a severe reaction. Note the marked involvement about the elbow.

Lesions may be found on palate and buccal mucosae, where they appear as tiny vesicles on an erythematous base or as small punctate red macules.

The face may be flushed and edematous, but often is not involved at all. One of our patients (figure 2) showed a marked eruption on the face which occurred after the rash was well established on the trunk and on the extremities.

The cutaneous manifestations appearing in nirvanol sickness characteristically involve the covered portions of the body first and appear on the face in only the more severe cases. Also, the eruption, when it appears on the face, is usually more sparse than when it appears on other parts of the body.

The temperature ranges between 100 F and 102 F., rarely rising above 103 F. There is nothing characteristic about the fever other than

its almost constant occurrence and distinctly limited variation. A careful search should be made for some intercurrent infection if the fever exceeds 103 F. The elevation of temperature produced by nirvanol rapidly returns to normal when the drug is discontinued.

No matter how pronounced the eruption may be, the patients generally feel comfortable. This is probably due to a feeling of relief occasioned by the cessation or abatement of the choreiform movements.

Pruritus may be intense or entirely absent. None of our patients complained of itching, and in no instance was it necessary to prescribe an antipruritic.

Fig. 2.—Close view showing the morbilliform type of eruption.

The exanthem becomes generalized from the tenth to the twelfth day. The eruption fades and loses it papular character rapidly. The lesions disappear after three or four days. No trace, such as residual pigmentation, remains, and the rash is not followed by desquamation. The patient usually has no cutaneous symptoms after the first eruption has disappeared.

Differential Diagnosis.—The differential diagnosis lies between the acute contagious exanthems, such as measles and scarlet fever, and the eruption produced by nirvanol. This becomes of extreme importance when recurrent nirvanol eruptions occur, especially if one is not aware of the previous history of ingestion of nirvanol.

The eruption is generally morbilliform and can be thought of as between rubella and measles in severity. The rash in measles is preceded by prodromal symptoms, including photophobia, conjunctivitis and nasal discharge, with varying degrees of bronchitis. There may be a history of exposure. These features are all absent in nirvanol sickness. The buccal lesions of nirvanol eruption might easily be mistaken for Koplik's spots of measles. In rubeola the rash is first seen on the face and neck and rapidly spreads over the rest of the body. The nirvanol eruption appears on the trunk first, spreads to the extremities and rarely involves the face. The individual lesions vary little from those of measles, but there is no tendency for the eruption to assume the crescentic arrangement so often noted in measles.

Scarlet fever often begins with sore throat and fever. The eruption appears on the trunk and spreads to all parts of the body within twenty-four hours, the fever increases with the appearance of the rash, and so-called strawberry tongue appears, there is a general enlargement of the lymphatic glands, and the eruption is invariably followed by desquamation. Usually a history of exposure can be obtained. Nirvanol eruptions are not associated with sore throat; they generally do not involve the entire body. The fever decreases with the appearance of the rash, if the drug is stopped. There is no strawberry tongue or general lymphatic enlargement, and the eruption is not followed by desquamation.

However, a history of ingestion of nirvanol is necessary completely to rule out measles or scarlet fever in some atypical cases. Other drugs might, of course, produce eruptions similar to that of nirvanol, and here the same differential points would apply.

Laboratory Data.—The blood shows a true eosinophilia, which reaches its maximum just before the appearance of the rash. There generally is a leukopenia with a decrease in polymorphonuclear leukocytes, accompanied by a relative lymphocytosis and monocytosis. After the eruption disappears the blood soon returns to normal. Some patients who have no eruption or fever show the same changes in the blood. There are no other laboratory findings of importance.

Patch tests were performed on fifteen apparently normal adults with powdered nirvanol and a paste made of nirvanol and water. The powder and paste were applied to the abraded and normal skin. The tests were read after twelve, twenty-four and forty-eight hours, and the results were entirely negative in every instance. At this time it was impossible to perform patch tests on patients who had formerly been treated with nirvanol. Ranschoff [8] and others have observed sensitivity to nirvanol develop after several years of occasional use of the drug as a sedative, also cases are on record in which hypersensitivity

8. Ranschoff: Nirvanol exanthem der Genitalien, Klin. Wchnschr. **3**:681, 1924.

appeared following ingestion of one tablet. The staff of the pediatric department treated some patients with nirvanol for recurrent attacks of chorea, and they did not observe any patients who were hypersensitive. We have not noted that patients become more sensitive to nirvanol following repeated courses of treatment.

Report of a Case.—H. M., a white boy, aged 9 years, was treated for Sydenham's chorea at the University Hospital by the staff of the pediatric department. Nirvanol, in 0.3 Gm. (5 grain) doses, administered three times daily, was begun on Nov. 26, 1931, and continued for seven days. The symptoms and choreiform movements became greatly aggravated on the second day (November 27). On the fourth day (November 29) the choreiform movements were almost absent. On the seventh day (December 2), he became flushed and drowsy, and had a temperature of 103 F.

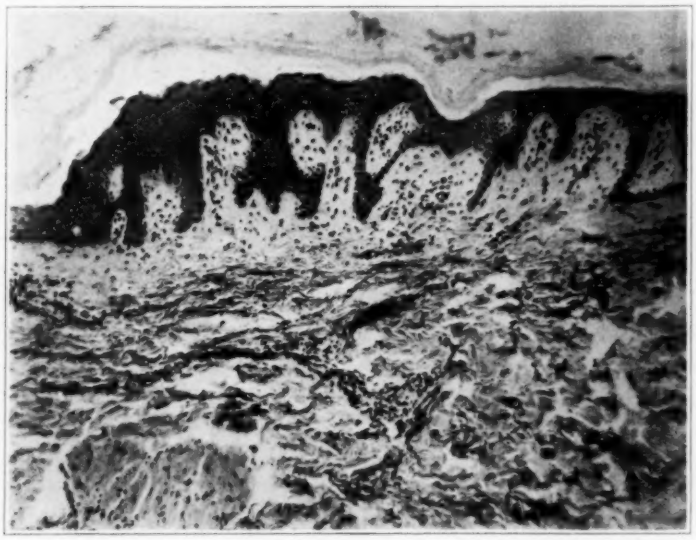

Fig. 3.—Lower power photomicrograph showing normal epidermis, edema of the papillary bodies, dilatation of the blood vessels and a slight perivascular infiltrate in the corium.

On the eleventh day (December 6), a generalized morbilliform eruption appeared, which reached its height on the twelfth day and faded on the thirteenth day. The blood showed a 7 per cent eosinophilia. There were no harmful after-effects, and the chorea showed immediate improvement.

Six more cases were observed. It would be a repetition of the first case to cite them in detail, for the patients passed through similar phases during the treatment, except that one presented an eruption that could not be differentiated from scarlet fever by observation alone. The days on which various symptoms appeared, the changes in the blood and the immediate results varied only slightly in the seven cases.

Complications.—Most of the patients show no harmful after-effects, but disastrous complications occasionally arise. Some patients have

no reaction at all, while in other patients the reaction can be delayed far beyond the usual time. A secondary reaction may arise similar to the primary one several days or weeks after the treatment has been discontinued.

Goebel [9] stated that the worst complication is the so-called recidivous exanthem. Several days after the abatement of the typical nirvanol eruption, there may develop a second severe exanthem and enanthem, which resemble a generalized dermatitis exfoliativa. The cutaneous vesicles may become filled with streptococcal pus, and the condition may then lead to a general sepsis. Of six such cases cited by Goebel, three terminated fatally.

Keller, according to Schlesinger and others, described a similar case. Keller's patient presented a secondary reaction, which occurred eleven days after the first, in which gingivitis, stomatitis, tonsillitis, nephritis, jaundice and bloody diarrhea occurred. Schlesinger thought that there was some reason to believe that this formidable secondary reaction was brought on by accidental exposure to sunlight. He stated that this may have been a coincidence, but as another severe secondary reaction has been reported after artificial sunlight was used on a patient who had just finished a course of nirvanol, it appears wise to guard against such exposure for two or three weeks after this form of therapy. This is the first mention of photosensitivity noted in the literature, and, until observed in more than these two cases, it might well be considered a coincidence.

Agranulocytosis,[10] hemorrhagic nephritis with death,[11] delirium,[12] dyspnea associated with swelling of the tracheobronchial lymph nodes,[13] paralytic ilius [14] and optic neuritis [15] are some of the other complications recorded by various observers.

Massive edema of the face, urticaria and severe pruritus have been seen following one dose of nirvanol.

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9. Goebel, F.: The Nirvanol Treatment of Chorea Minor—Pro and Con, Deutsche med. Wchnschr. **57**:1313, 1931.

10. Feer, E.: Zur lymphatischen Reaktion beim Kinde. Ein fall von Aleukie nach Nirvanol, Monatschr. f. Kinderh. **42**:157, 1929.

11. Majerus, K.: Klinische Erfahrungen über Nirvanol, Deutsche med. Wchnschr. **44**:1455, 1918; Deutsche Ztschr. f. Nervenh. **63**:312, 1918-1919.

12. Matzdorff, K.: Zur Nirvanolbehandlung der Chorea, Deutsche med. Wchnschr. **52**:528, 1926.

13. Pilz, K.: Auffallende Lungenerscheinung bei Nirvanol Intoxikation, Arch. f. Kinderh. **82**:210, 1927.

14. Jolowicz, E.: Beziehungen der Nirvanolvergiftung zur Anaphylaxie, Therap. Halbmonatsh. **34**:416, 1920.

15. Schlichtegroll: Ein Fall schwerer Nirvanolvergiftung mit Heilung, Berl. klin. Wchnschr. **57**:611, 1920.

Ranschoff cited a patient who had taken an occasional tablet of nirvanol for several years as a sedative. One 5 grain (0.325 Gm.) tablet taken at the end of this period was immediately followed by severe itching and erythema of the penis and of the scrotum. Two years later a second tablet was taken; the result was severe pruritus, edema and erythema of the scrotum and penis. The aforementioned case seems to indicate an anaphylactic reaction.

No complications were noted in any of our patients.

Histopathology.—The histopathology is not specific for the condition. The epidermis was normal, with no increase in pigment. There was moderate dilatation of the blood vessels of the corium, associated with a slight perivascular infiltration of lymphocytes. There was a mild degree of edema of the papillary bodies. The microscopic picture was that of a nonspecific toxic erythema. Sections made from three cases were all similar and could not be distinguished from preparations made from biopsies taken from scarlet fever patients. The photomicrograph shows the features that were common in all of the sections examined.

SUMMARY

Nirvanol, a new preparation used in the treatment of chorea, after it has been administered for a definite time in exact amounts, uniformly produces an eruption accompanied by a definite symptom complex.

In chorea successful results are attributed to the specific reaction that occurs after several days of oral administration.

Most observers believe the reaction to be similar to that of serum sickness, but the exact mechanism is not known.

Symptoms following ingestion of nirvanol appear with clocklike precision. They are not constant but are more consistent than is the case with most eruptions due to drugs.

The histopathologic condition is the same as that found in any toxic erythema.

The differential diagnosis rests between the acute contagious exanthems, measles and scarlet fever, and eruptions produced by this drug.

There are fairly uniform changes in the blood in all cases.

The prognosis of nirvanol sickness is good. Complications are few and usually are of no great consequence. The literature contains only a few examples of severe complications that resulted in sepsis or death.

EFFICACY OF BISMARSEN IN WASSERMANN-FAST SYPHILIS

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The present study was undertaken to determine the efficacy of bismarsen (bismuth arsphenamine sulphonate) in Wassermann-fast syphilis. This aspect of the disease is of common incidence, and its management from a serologic standpoint has, up to now, proved far from being entirely successful. This is evidenced by the various drugs which have been advocated to combat it. The employment of bismuth compounds has been accompanied by a fair measure of success; yet a reversal in the serology in from 25 to 33 per cent of the patients so treated is about the best that may be hoped for or accomplished.[1] Treatment with sulpharsphenamine [2] has been recommended, but has evidently proved to be without value.[3] More recently, Stokes, Miller and Beerman,[4] in recording the results which they obtained with bismarsen in the various forms of syphilis, reported their degree of success in the Wassermann-fast syphilitic patient. Fifteen patients received treatment with this compound, which has an arsenical content of from 12 to 15 per cent and a bismuth content of from 23 to 25 per cent. The total number of injections which each patient received ranged from seventeen to forty-one, with four patients receiving the latter number. Reversal of the serology to negative was obtained in seven (47 per cent) of the patients treated. This percentage of change was undoubtedly a large one and connoted a degree of efficiency in the therapeusis of Wassermann-fast syphilis much higher than any that had obtained in the past.

I began the use of bismarsen in Wassermann-fast syphilis shortly after its introduction. Up to a recent date, a total of forty-three patients were treated with this compound. The procedure of treatment was

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1. Grund, J. L.: The Treatment of Syphilis with Bismuth, Boston M. & S. J. **192**:340 (Feb. 19) 1925. McCafferty, L. K., and MacGregor, J. A.: Wassermann-Fast Syphilitics Treated with Bismuth, Am. J. M. Sc. **170**:22, 1926.

2. Stokes, J. H., and Behn, C. W.: Serologic and Clinical Results in Various Types of Syphilis with Sulpharsphenamin Administered Intramuscularly, J. A. M. A. **83**:242 (July 26) 1924.

3. Grund, J. L.: The Efficacy of Sulpharsphenamine in Wassermann-Fast Syphilis, New England J. Med. **203**:76 (July 10) 1930.

4. Stokes, J. H.; Miller, T. H., and Beerman, H.: An Appraisal of the Newest Arsphenamine Synthetic, Bismarsen, in the Treatment for Syphilis, Arch. Dermat. & Syph. **23**:624 (April) 1931.

as follows: Two-tenths gram of bismarsen powder, dissolved in 1.5 cc. of a solvent containing 0.25 per cent butyn was administered intramuscularly into the buttocks once in seven days until a total of twenty injections was attained. At the end of a month interval, during which the patient received no therapy, blood for the Wassermann, Kahn and Hinton tests was drawn. When possible, a second course of twenty injections was administered; this was carried out in a total of three cases.

In every one of the cases, all three reactions (Wassermann, Kahn and Hinton) were positive previous to the inception of the treatment. In thirty-nine of the forty-three cases, these tests were unchanged at the completion of a course of twenty injections. In one of the four cases in which serologic alteration occurred, the Kahn and Hinton tests were reversed to negative, but the Wassermann test remained positive. A case of congenital syphilis, which had manifested positive serology for a period of years in spite of prolonged and regular antisyphilitic treatment, presented an entirely negative serology with a course of twenty injections of bismarsen. In two cases in which entirely negative serology was obtained with twenty injections of bismarsen there was a relapse to a positive reaction in blood tests carried out at subsequent monthly intervals over a period of three months.

In the three cases in which a total of forty injections of bismarsen was administered, no change in the positive serology was obtained with repeated examination of the blood.

CONCLUSIONS

Forty patients with Wassermann-fast syphilis received prolonged treatment (represented by a course of 20 injections) with bismarsen. Of these, only one manifested a favorable serologic change.

Each of three patients with Wassermann-fast syphilis received a total of forty injections of bismarsen. None presented changed serology in repeated examinations of the blood. It was evident in this small number of cases that prolongation of the treatment did not enhance the effect of the bismarsen on the serology.

The negligible proportion of serologic reversal points, in this series of cases at least, to the lack of value of bismarsen in Wassermann-fast syphilis. Whether or not a higher percentage of favorable serologic change might be obtained in a larger series of cases is problematic. It seems that the number of cases studied offers a fair basis for the evaluation of the drug.

The interpretation of the results obtained with bismarsen in Wassermann-fast syphilis coincides with the opinion presented by O'Leary in his discussion of the communication on bismarsen presented by Stokes and his collaborators.[4]

LXII.—THE FINANCING OF DERMATOLOGIC RESEARCH

A SUGGESTION FOR THE FUTURE

W. H. MOOK, M.D.
ST. LOUIS

When I returned to St. Louis in 1905 to begin the practice of dermatology in association with Dr. Engman, we planned our future professional career. Dr. Engman had just founded the St. Louis Skin and Cancer Hospital, and we had visions of what we would do in the line of study and research in diseases of the skin. An analysis of the work that we have produced up to the present time has been disappointing in many respects and has showed that our twenty-five year plan did not materialize its objective to the extent that we had hoped. We have compared the results of dermatology with those produced by other special medical researches up to the present time, and our conclusion is that while research and progress in dermatology have been commensurate with those in other lines of medicine, progress has been rather slow in all branches, and that the cause for this slow development has been not a matter of brains but one of economics.

We thought that the establishment of a hospital for the study of the cause and cure of cancer and diseases of the skin would bring forth voluntary contributions which would endow us with the money we needed to carry out our plans of research. We were mistaken. The voluntary contributions have been inadequate, and we have spent a large part of these years in the constant effort to raise funds. It is more or less humiliating to ask rich persons who could easily afford to give the money for donations for research, and we have become beggars at times, seekers of charity asking for money for the betterment, not of the individual, but of the whole of mankind. In addition to this, it is more difficult because few persons are interested in diseases of the skin and cancer. This field seems unimportant to the great majority of people.

Research work in this field is carried on at present only in isolated regions of the world, and only by an indefatigable worker or a genius are real results accomplished. The best period of life in which the student has time and initiative to work is between the ages of 25 and 40,

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President's address, American Dermatological Association, Havana, Cuba, May 5, 1932.

Studies, observations and reports from the dermatological departments of the Barnard Free Skin and Cancer Hospital and the School of Medicine, Washington University, service of Drs. M. F. Engman and W. H. Mook.

but this is his lowest economic period. He has ideas and visions which cannot be consummated because of lack of money. Later, when he has made a success of his practice, he no longer has the inclination or the time to realize these ideals.

Whenever disease inhibits or obstructs commerce, commerce develops an organized plan of attack to overcome it, and this can be done only by study in the laboratory. The best example I can cite is the building of the Panama Canal and the control of yellow fever. Contrast this with the progress made in the control of syphilis, for instance, or of diabetes. It seems incredible that it required from the time of Adam to the present day to make discoveries and advances. Think of the human and economic loss in those years.

The American Dermatological Association was incorporated a year ago, and there seems to be no reason why it should not develop an organized plan of research by which the individual workers could be subsidized through a central body and more rapid progress could be made. Numerous and immense pharmaceutic and drug houses have developed and grown rich through the results of the work of persons who have never received anything but the glory of their names. Commerce has received the profits as well as the honors, and it is exceptional for an individual research worker to gain profit from his work in order to carry on his studies. I should like to make the suggestion that some of the profits should be available for research workers to enable them to carry on their studies, and I think that there is no doubt but that the reputable commercial houses would be only too glad to donate part of their profits for the development of research. I think that a fund could be created by the association through donations from commercial houses for the organization of laboratories situated in various parts of the country, under the direction of the various universities and supervised by a committee of five or seven members of the association, which could carry out the ideas of workers. Research, which is at present carried on in a haphazard way, would then be under the direction of an organized plan and would be more rapidly carried to completion. For instance, with reference to dermatophytosis, which has become alarmingly increased and causes an enormous individual economic loss, the problem would undoubtedly be solved much more rapidly under centrally organized direction than under the present individualistic efforts. If the disease should become a menace, the government would do what we should have done. This procedure, of course, involves the question of medical ethics.

Under present methods of communication, which have been developed by commerce, the line of demarcation of ethics is fading somewhat, as shown more particularly by radio broadcasting. In an editorial in

The Journal of the American Medical Association,[1] a statement was made regarding the recent adoption of the Medical Society of the County of New York and the Council of the Academy of Medicine of a series of principles governing contact of physicians with the public through the press, the lecture platform, lay periodicals and the radio. The relationship of educational broadcasting to commercial considerations, particularly since radio in this country is so largely under the control of commercial firms, is provided for in this manner:

> Provided that the commercial organization is of reputable standing there is no objection to physicians accepting such employment. A physician must not, however, make his address an endorsement or testimonal for the product or products of the organization on whose time the broadcast is given. In order to safeguard himself and the profession when such employment is offered him, a physician should confer with the Medical Information Bureau both as to the standing of the commercial organization with which he is to make a connection and the contents of the paper or papers he proposes to broadcast. The regulations have been adopted with the understanding that failure to comply will make the offender liable to disciplinary measures by the Medical Society of the County of New York or Academy of Medicine, or both.

The editor commented that our New York colleagues have taken an advanced and noteworthy step in establishing the relationships of modern medicine to the public. Thus it would seem that the association might evolve a plan of cooperation with commercial houses, and that the profits of investigators would accrue to our organization for the further and more rapid development of research.

I have no plan to offer by which this could be developed, but it seems to me that it would be a valuable topic for discussion and worthy of study by the entire organization. Of course, it seems a radical departure from the methods of the past. At the present time, medical development in the future seems to lie in the line of physiologic chemistry; that means laboratory research, and laboratory research means money. If the association can develop its own fund instead of depending on the whims of infrequent donors, it would greatly strengthen the possibilities for scientific and practical usefulness.

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1. The Physician as Writer, Lecturer and Publicist, editorial, J. A. M. A. **97**:1228 (Oct. 24) 1931.

ACTION OF PINE OIL ON SOME FUNGI OF THE SKIN, IN VITRO

HENRY FIELD SMYTH, M.D., Dr. P.H.
AND
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Kingery [1] has called attention to the value of some essential oils in the treatment of ringworm infections. The purpose of this work was to demonstrate to what extent steam distilled pine oil, often known simply as pine oil, is of value in treating similar infections. Pine oil is a product of the modern naval stores industry, and is composed chiefly of oxygenated derivatives of the terpenes, usually being about 70 per cent alpha-terpineol.

The first part of the work, reported on here, was confined to laboratory tests of the disinfecting power of pine oil and certain of its purified components on pure cultures of fungi responsible for ringworm and similar infections. Clinical tests are still in progress, and will be reported on later.

TEST MATERIALS

The materials tested are all articles of commerce, none of them being prepared in a specially pure grade for this work. The six materials used were two grades of pine oil, alpha-terpineol, fenchyl alcohol, steam distilled wood turpentine and borneol.

Alpha-terpineol, fenchyl alcohol and borneol were included in the study, so that if they proved to be considerably more effective than the pine oils, of which they are components, one or more of them might be used in further work in place of one of the pine oils.

Table Showing Physical Properties of Pine Oils

	White Pine Oil	Pale Yellow Pine Oil
Specific gravity at 15.5 C.	0.930 to 0.940	0.937 to 0.942
Refractive index at 20 C., not under	1.479	1.480
Color: Lovibond tintometer:		
Yellow	2.0	...
Amber	...	12.0
Red	0.5	0.5

1. Kingery, L. B., and Adkisson, A.: Certain Volatile Oils and Stearoptens as Fungicides: Experimental Study, Arch. Dermat. & Syph. **17**:499 (April) 1928. Kingery, L. B.: Thymol and Cinnamon Oil in Treatment of Ringworm of the Scalp, Arch. Dermat. & Syph. **20**:797 (Dec.) 1929.

The two pine oils are known in this report as "white pine oil" and "very pale yellow pine oil" and are products already marketed, purified for different uses. Their physical properties are given in the accompanying table.

The materials were used in three concentrations, and entries in the graphical presentation of results appear under three corresponding heads: 100 per cent, of course, means that the sample was used as received. (Fenchyl alcohol and terpineol were melted and the tests made at about 37 C. so that they would stay melted. This temperature was not high enough to weaken the cultures being tested.) For the 10 per cent and 1 per cent solutions emulsions were made with a rosin soap. Then these emulsions were mixed with water so that the resulting dilutions contained 10 per cent and 1 per cent of the pine oil, respectively.

ORGANISMS

The pure cultures used for the disinfectant tests were furnished by Dr. F. D. Weidman, Professor of Dermatology in the University of Pennsylvania, from his own extensive collection.

The numbers in the following list of cultures used are the serial numbers of the organisms in Dr. Weidman's collection:

2193—Trichophyton interdigitale
2136—Trichophyton interdigitale
1550—Trichophyton purpureum
1894—Trichophyton granulosum
2205—Trichophyton granulosum
2200—Epidermophyton inguinale
1043—Trichophyton interdigitale
1367—Trichophyton interdigitale
1508—Trichophyton interdigitale
1851—Trichophyton purpureum
1316—Microsporum fulvum
1868—Sporotrichum schenkii

The first six cultures were tested with all six of the materials mentioned. The second six cultures were tested later, after results on the first ones had been obtained. In view of these first results, it was not thought worth while to test the second group of cultures with more than four of the materials—the two pine oils, alpha-terpineol and fenchyl alcohol.

Trichophyton interdigitale is, according to Weidman,[2] the most frequent cause of interdigital ringworms in the United States, and it is accordingly represented in the preceding list by five different strains, originally isolated from five different cases, showing somewhat different

2. Weidman, F. D.: Laboratory Aspects of Epidermophytosis, Arch. Dermat. & Syph. **15**:415 (April) 1927.

characteristics. Trichophyton purpureum and granulosum are not at all unusual in such diseases of the skin. Epidermophyton species are the next most common organisms causing ringworm diseases, according to Weidman.[2] These four species, comprising ten of the test cultures, are representative of the organisms causing ringworm of the feet, in that pure cultures isolated from the greater number of such ringworm diseases would be found to belong to one of the four species.

Microsporum fulvum and Sporotrichum schenkii are other fungi of the skin that were used in this study for comparison. Organisms of the genus Sporotrichum are decidedly more resistant to disinfectants than are ringworm fungi, and are responsible for much more severe types of infection in man. Any action on organisms of this genus in a reasonable time may be taken as evidence favorable toward a disinfectant.

The cultures of these fungi were maintained in stock on slants of Sabouraud's agar medium (Henrici[3]). All cultures used for the tests were taken from slants on which the growth was between one and two months old, since there is some evidence that these old cultures are more resistant than young ones (Weidman[4]).

TECHNIC OF THE TESTS

Since the action of pine oil in actually killing the fungi was desired, no attempt was made to incorporate the test materials into the medium on which the fungi were grown, although such a method is often used in similar studies. All such tests reveal fungistatic action of the disinfectant materials rather than true fungicidal action.

In outline, the scheme of the tests made consisted in keeping small bits of the fungus growth in the pine oils for definite times, then removing the bits, rinsing off all the pine oil and planting the bits on Sabouraud's agar medium. Bits not growing after this treatment were considered to have been killed, if control cultures had grown.

The bits of fungus were about 1 mm. square, cut from the surface layer of the fungus growth on a Sabouraud's agar slant from one to two months old, and included many spores. The entire mycelial mat growing on the agar was lifted off with a sterile loop and placed in a sterile Petri dish. The excess agar clinging to the under side of the growth was scraped off with a sterile knife, and the cleansed growth was cut into enough bits 1 mm. on a side for the tests planned within the next two or three hours.

At least seven of the small bits were placed in one sterile Petri dish, and a similar dish of 95 per cent alcohol, one of sterile physiologic solution of sodium chloride and one with a layer of Sabouraud's medium agar were set alongside. The dish with the agar was marked off into seven divisions, one as a circle at the center, to be used for the control, and six radially around this, marked with the time of contact between the pine oil material being tested and the bits of fungus cultures destined to be placed on particular areas. In most of the tests these

3. Henrici, A. T.: Molds, Yeasts, and Actinomycetes, New York, John Wiley & Sons, Inc., 1930, p. 27.

4. Weidman, F. D.: Personal communication, 1931.

periods of contact were five, ten, fifteen, twenty, twenty-five and thirty minutes. It was thought that action *in vitro* in thirty minutes indicated sufficient fungistatic power to justify clinical trial.

After the dishes were set up and filled with their respective materials, the control bit of culture was removed with sterile forceps from the first dish and rinsed in alcohol and salt solution for the same time (about ten seconds in each) that the treated bits would be rinsed. The alcohol was used for the purpose of removing the pine oil from the treated bits of culture and the salt solution for removing the alcohol. Then the control bit was planted on the surface of the agar in the central area reserved for it.

A stop-watch was now started, the disinfectant being tested was poured into the first dish with the remaining bits of culture and the actual test was started. Exactly five, ten, etc., minutes after pouring on the disinfectant, one bit of culture was removed from the dish, rinsed in the alcohol and physiologic solution of sodium chloride and planted on the area of the plate of medium reserved for it, the usual

Fig. 1.—Typical plate, showing character of results obtained. Five days after test with culture 2205. The control and the five, ten and fifteen minute inoculations have grown; no growth on others.

precautions being observed for maintaining sterility. After all the bits had been planted the plates were kept at 20 C. and observed daily, records being kept of the first day each bit of culture showed growth to the naked eye. Figure 1 is a photograph of a typical plate showing how some bits of culture grew and some did not.

In cases in which the control bit of culture failed to grow, or in which the plate became contaminated by organisms originating in dust accidentally falling on the medium, the entire test was repeated. Well over two hundred and fifty such tests were made. Of course, by properly timing the pouring on of disinfectants being tested, several tests could be made at one time. The usual number was ten, making it necessary to remove a bit of culture from one of the dishes with pine oil materials every thirty seconds, much as is done in making the determination of the phenol coefficient.

The materials and times of contact that showed some effect on the bit of culture did so in one of two ways. The first way was in delaying the growth of the fungus beyond the time of growth of the control. The second was in killing the organism

so that it did not grow at all. In this work it was assumed, on the basis of general experience with the organisms, that the bits not showing any sign of growth under a hand lens in fourteen days had been killed. A few plates were kept for several weeks without any bits originally reported as killed showing growth.

RESULTS

The results of these fungicidal tests are reported graphically in figure 2 because of their number and the difficulty of obtaining a comprehen-

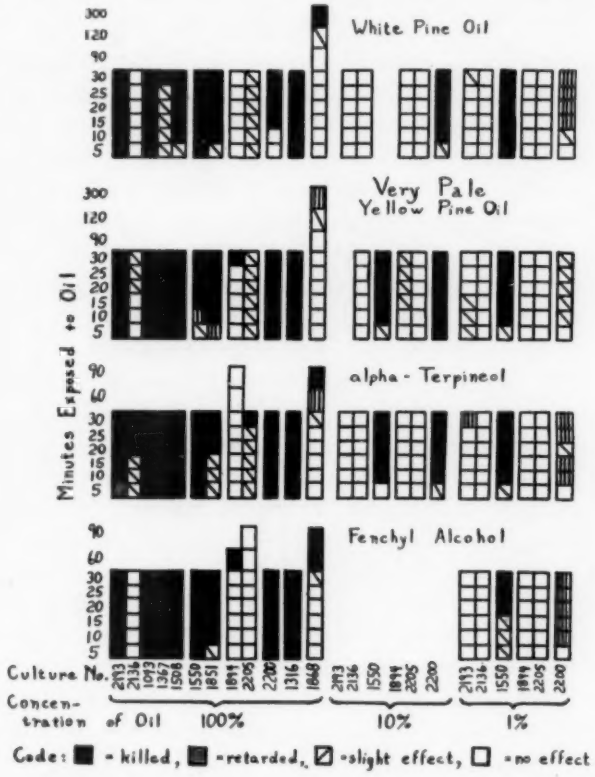

Fig. 2.—Graphical summary of results obtained.

sive view of the matter from tables. No results are given for turpentine because it was relatively ineffective, or for borneol, because it was only slightly more effective than the alcohol in which it had to be dissolved.

In these charts, perfect effectiveness is indicated by an unbroken black bar the entire length of the chart, showing that all contact times, beginning with five minutes, killed the organisms. Shorter black bars show that the pine oil material killed the organism, but required longer than five minutes to do so.

For simplicity, the trials in which the effect of the fungicide was only to delay the growth of the culture are grouped in two arbitrary

categories. The first is noted as "slight effect," and means that the bit of treated culture grew from two to seven days later than did the control bit. This action is of questionable value in the control of actual cases of ringworm. The second category is noted as "retarded," and means that the treated culture was delayed in growth more than seven days beyond the control. This action may have some value in the treatment of actual cases of ringworm.

SUMMARY OF RESULTS

Neither the 1 per cent nor the 10 per cent dilutions were of much value in killing the cultures. The 100 per cent oils, however, were quite effective in these tests *in vitro*.

Alpha-terpineol was the most effective against the organisms, and fenchyl alcohol and the two pine oils were almost alike. Turpentine showed practically no action against the cultures. However, the difference between alpha-terpineol, fenchyl alcohol and the two pine oils was so slight that the questions of cost and convenience decided which was to be used for further work.

The different species showed fairly clearcut differences in resistance to the pine oils. Their resistance is in some degree proportional to the severity of the infections they produce. Thus T. granulosum, responsible for the most severe Trichophyton infections, was most resistant to the pine oils. One strain (1894) was killed in sixty minutes by fenchyl alcohol and in thirty minutes by "very pale yellow" pine oil, while the other (2205) was killed only by alpha-terpineol in thirty minutes, although its growth was definitely retarded by the two pine oils.

T. interdigitale, probably responsible for well over half of the cases of ringworm in the country (Weidman [2]), was killed in four of the five strains tested within five minutes by the "very pale yellow" pine oil. Culture 2136 was only slightly affected in as long as thirty minutes' contact with this pine oil. However, longer contact would probably produce more effect with this strain.

T. purpureum was killed in both strains tested (1550, 1851) within ten or fifteen minutes by the "very pale yellow" pine oil.

E. inguinale (2200) was killed in five minutes by the "very pale yellow" pine oil, as was M. fulvum (1316).

S. schenkii (1868) is seldom involved in ringworm infections (Weidman [2]), so that action on it is only of interest, not of importance, in this work. "Very pale yellow" pine oil did not kill the culture of S. schenkii in five hours of contact, but it definitely retarded the growth of the culture, and possibly would have killed even this organism in a longer time of contact. Both alpha-terpineol and fenchyl alcohol killed the organism, the former in ninety minutes' and the latter in sixty minutes' contact, while white pine oil killed it in five hours.

CONCLUSIONS

We believe these results show that pine oil has definite value as a fungicide against organisms causing such diseases of the skin as ringworm. Considering cost and effectiveness, "very pale yellow" pine oil seems to be the most practical of the materials tested, although it is not the best material for every organism tested.

One advantage of pine oil over other possible materials for the treatment of ringworm lies in its low vapor pressure. It stays in contact with the infection for a long time. Two or three applications daily are adequate to maintain almost constant contact, even without poulticing. This is by no means true of all materials now on the market for the treatment of ringworm. For treatment of fungi infections, in which the organism burrows under the top layers of the skin, this long-continued contact with chance for penetration, is a decided advantage.

The odor of pine oil is pleasant, and it does not stain or otherwise injure clothing, so that its use is not at all objectionable.

Biography

ALIBERT

B. BARKER BEESON, M.D.
CHICAGO

Jean Louis Marc Alibert was born at Villefranche-de-Rouergue, southern France, on May 2, 1768. Alibert's family belonged to the higher bourgeoisie. His father, Pierre Alibert, was a well known magistrate. At an early age, Alibert entered the local college which was conducted by the Fathers of the Christian Doctrine. When he had completed his preliminary education, he entered the order and passed his novitiate at Toulouse. He had returned home and embarked on a teaching career when the law of Aug. 17, 1792, abolished all religious orders in France and compelled Alibert to change his profession. In 1795, he spent four months as a student at the Paris Normal School. His work there was abruptly ended by the closing of that institution.

Meanwhile Alibert had become acquainted with Pierre Roussel and Cabanis, both of whom were very influential. They introduced him into the well known salon of Madame Helvetius at Auteuil, which was frequented by many of the best known Parisians. There Alibert soon made other valuable acquaintances, among them being such physicians and surgeons as Pinel, Desgenettes, Alexis Boyer, Pariset, Thouret and Richerand, who was later his colleague at the Hôpital Saint-Louis. Following the advice of Roussel and Cabanis, Alibert chose medicine as his life work. He passed the entrance examinations and matriculated in the Paris Medical School in 1796. That same year he was one of fourteen of his class deemed worthy of promotion. Brodier mentions his grades as follows: chemistry, passable; botany, good; obstetrics, good; internal pathology, good, and external pathology, weak. In those days the clinics of Corvisart, Desault, Boyer and Pinel were among the most popular. Alibert seems to have preferred Pinel, and he followed his service most assiduously. It was there that the material for his

This biography is based on data in the following works devoted to Alibert: Brodier, Léon: J. L. Alibert, Médecin de l'hôpital Saint-Louis, 1768-1837, Paris, A. Maloine & fils, 1923. This includes two portraits of Alibert, the arbre des dermatoses and a copy of one of his letters, and is the most extensive work dealing with Alibert. Alfaric, Achille: J. L. Alibert, Fondateur de la dermatologie en France, sa vie, son oeuvre, 1768-1837, Thèse de Paris, 1917, Paris, Librairie J. B. Baillière et fils. Montgomery, D. W.: Jean Louis Alibert, Arch. Dermat. & Syph. **19**:89 (Jan.) 1929.

thesis was secured, so he very appropriately dedicated it to his teacher. It bore the title "A Dissertation on the Pernicious or Ataxic Intermittent Fever," and was presented on Nov. 19, 1799. This clever presentation of the subject brought Alibert into prominence so that he was well known soon after receiving the M.D. degree. His thesis was published in five editions and translated into several foreign languages.

On Oct. 1, 1800, Alibert was one of forty named for membership in the newly constituted Society of the Medical School of Paris. This brought him into close contact with most of the medical luminaries of the French capital. His close friends, Cabanis and Augustin Thouret, had meanwhile been made, along with Cousin, members of the directing board of the Parisian hospitals. It was therefore no surprise when, in

LE BARON ALIBERT
1768-1837

1801, Alibert was appointed adjunct physician to the Hôpital Saint-Louis. The date of his appointment as a full-fledged member of the staff has been variously given. Brodier said it occurred in 1802, while Dauvergne, one of Alibert's pupils, has set the date as 1807.

In 1801, the Hôpital Saint-Louis had been set aside for the more chronic disorders, whether contagious, as scabies and ringworm, or rebellious and cachectic, as the dartres, scurvy, ulcers and enlarged glands. Under ulcers were included syphilis, scrofula, leprosy, certain chronic eczemas and all of the suppurative skin conditions, even those due to trauma. As Gaucher stated in his opening address, "All sorts of skin ulcers were confused without any attempt to differentiate them." As a consequence, many persons with skin disorders came to the hospital, which fact, along with a desire to clarify this chaotic realm, prob-

ably accounted for Alibert's orientation toward dermatology. Lorry had already written the first work on skin diseases in France (1777). While evidencing much originality, it was in Latin, and moreover its author did not have access to the amount of material that Alibert had. The exact date of his entry into dermatology was probably soon after becoming affiliated with the Hôpital Saint-Louis. Alfaric divides Alibert's teaching career into two periods, the first one extending from 1801 to 1815, and the second from 1829 to his death in 1837. Alibert referred to the works of Mercurialis and Lorry with respect, but he did not hesitate to define his own position in 1806 as follows: "I am entering into a career which is almost deserted, where few men have penetrated before me, where all is a problem for thought. I have myself traced out the path which I am following. Let one judge the numerous obstacles over which I must triumph."

In 1815, Napoleon was finally defeated and exiled to Saint Helena. The Restoration placed Louis XVIII on the French throne. Not long thereafter and on the recommendation of Portal, Alibert became that monarch's personal physician. This position was no sinecure because of the king's continuous poor health. In order to be near him, Alibert was compelled to spend much time at the Court, sleeping at the Tuileries when it was in Paris and following the king to Saint-Cloud in the summer. These demands with those of Alibert's large private practice compelled him gradually to abandon both his hospital visits and clinics. By 1819, they had practically ceased, although Alibert was nominally on the hospital staff. This long absence led to a gradual usurpation by Biett of Alibert's position as the outstanding dermatologist of France. During a visit to England, Biett had embraced the Willan doctrines, and when he became physician to the Hôpital Saint-Louis he began at once to preach the gospel along those lines. Thus there sprang up a second school of dermatology in France, and the battle waxed fierce between them.

On the death of Louis XVIII, in 1824, Alibert assisted in the autopsy on his remains. Charles X, who succeeded to the throne, retained Alibert as his personal physician, so he was compelled to neglect his hospital work and clinics still further. During odd moments, Alibert wrote his celebrated "Physiology of the Passions" (1925) and a "Compendium on the Mineral Waters" (1826). Following this, he devoted all of his energies to laying the foundation for a vigorous defense of his dermatologic doctrines. During his absence they had undergone a heavy bombardment at the hands of Biett and his followers and were in a shaky state. Alibert resumed his clinics at the Hôpital Saint-Louis on April 26, 1829. Before a large audience he presented the celebrated *arbre des dermatoses,* which was a new classification of

skin diseases modeled along naturalistic lines. The idea of employing a tree for this purpose doubtless occurred to Alibert because of his acquaintance with a similar scheme which Torti had utilized for classifying the various fevers. From then on Alibert was most zealous in teaching. The cholera epidemic of 1832 caused a temporary postponement of the clinics of that year.

At first Alibert held forth in a small amphitheatre built for him on the ground floor of the Pavillon Gabrielle, which still exists to the east of the main structure of the Hôpital Saint-Louis. His audiences soon outgrew this small space, so he conceived the idea of giving outdoor demonstrations patterned after the alfresco discourses of Plato and other Greek philosophers. They were held in the garden just in front of the Pavillon Gabrielle where Alibert's service was located. Benches were set out under the spreading lime trees for the audience while Alibert was seated on a rather shaky temporary platform which each patient mounted to stand beside him. Tableaux representing unusual cases along with the *arbre des dermatoses* were hung up between the trees. Each patient bore the title of his disorder in 1 inch letters across the chest. According to Alfaric, Alibert gave three clinics weekly, while the London *Lancet* stated that they were held on Wednesday at 10 a. m. Alibert also visited his service several times each week. During the cholera epidemic he is credited with making three visits to the hospital every day. At times he even slept there when desirous of making his rounds earlier than usual. His clinics began in the late spring and lasted through the early summer months. They attracted physicians not only from all over France but also from distant points in Europe as well as the British Isles.

As a rule Alibert insisted that only persons with skin diseases should be admitted to his service, the only exception being when the cholera epidemic was raging in Paris. At that time Alibert cared for a large number of patients with cholera, and his results compared most favorably with those of his colleagues. As soon as the last patient with cholera had left him, the original restrictions were again in force. In a letter to his intern, Girou, in 1829, he said, "Be inflexible against those parasites who wish to invade our hospital beds. Write carefully the histories of all patients in the Pavillon Gabrielle, giving me copies of them every Saturday. Take complete notes of my lectures. Be firm in the Pavillon, be active. Be inexorable and admit to my service only cases of skin disease."

As a clinician, Alibert was eminently successful. He combined originality with oratorical ability. His voice was both pleasing and harmonious. Being well grounded in the classics he quoted with ease not only the ancients but also from the more modern writers. Never morose or austere, he held his audience at all times. Cases were some-

times referred to in a most unusual manner, a young prostitute with syphilis being presented as "a priestess of Venus wounded by a perfidious dart of love." Like Fournier who even at an advanced age showed delight at seeing a characteristic syphilid, Alibert never failed to enthuse over a well developed skin disorder, as the following incident will show. A pauper with an extensive elephantiasis was shown to Alibert. "It is superb," he cried. "Doctor, can I be cured"? was the reply. "I must have a portrait of you," said Alibert. "Can I hope for relief," asked the man. "Certainly, certainly, but you must be painted." To a final query, "May I have a bed in your service"? Alibert responded, "You may have ten if you need them."

In 1804, Alibert competed unsuccessfully for the chair of medical natural history. A little later he inaugurated a private course in materia medica and therapeutics, which subjects were always hobbies of his. His first work on skin diseases appeared in 1806, and it met with a most enthusiastic reception. Being published in sections, it was not complete until 1814. Its title was "A Description of the Diseases of the Skin Observed at the Hôpital Saint-Louis and An Exposition of the Best Methods Followed in Their Treatment." The first edition was dedicated to Alexander I of Russia at the time the Allies entered Paris in triumph and sent Napoleon to temporary exile at Elba. Throughout his life Alibert was a staunch monarchist, but he never approved of Bonaparte. He spent 100,000 francs in publishing this first work, which sum represented his wife's dowry. He was compelled to make restitution on her death eight months after their wedding. Such a costly book was accessible to few. Each copy sold for 600 francs. To enable its wider circulation Alibert published it without the fifty-one elaborate colored plates under the title, "A Theoretical and Practical Compendium of Skin Diseases," which appeared in two volumes from 1810 to 1818. Among his other important publications were the "Monograph of the Dermatoses" (1832) and his "Clinics at the Hôpital Saint-Louis" (1833). They appeared in several editions and were translated abroad, especially in Germany and Italy. Alibert wrote a number of articles on various skin disorders. Brodier credits him with pioneer descriptions of keloid tinea amiantacea, mycosis fungoides, acromegaly and scleroderma. Brocq stated that Alibert first described pityriasis rubra, while Darier claimed for Alibert the first accurate description of seborrhea. Alibert coined the term syphilid. It was in his service that Renucci on Aug. 14, 1834, demonstrated the long sought for itch mite. For that feat he was rewarded with a gold medal at Alibert's opening clinic the following year. Cazenave credited Alibert with being able to translate symptoms by images. Thus he compared the tumors of mycosis fungoides to ripe tomatoes and the scutula of favus to the alveoli of a beehive.

While a medical student, Alibert showed promise along poetical lines, several of his works being published and favorably commented on. In later years it is said he strove to forget those youthful pranks. In 1800, he translated from the Italian a "Treatise on Hemorrhage in Pregnancy by a Doctor Pasta." He also delivered eulogies of Spallanzani, Galvani and of his close friend, Roussel, which were considered as masterpieces.

Alibert was much interested in contagion, and it is said that he performed the inoculations which proved the transmissibility of favus. Not hesitating even to offer himself for experimentation, he said, "Who is the man who does not wish to discover a truth in science, even at the peril of his health." In 1808, being interested in cancer, he inoculated both Biett and himself with ichorous material from a carcinoma of the breast. Alibert showed no sequel, but Biett presented a transitory lymphangitis of both arms.

On Aug. 9, 1821, Alibert became professor of botany in the Paris Faculty of Medicine, but that body was soon suppressed, so he did not occupy the chair. In 1823, a royal decree gave to him the professorship of materia medica and therapeutics, which he kept until his death. Brodier states that in 1833 there was some talk of establishing a chair of dermatology for Alibert, but nothing came of it. Although most active in his professorial duties, Alibert left no lasting trace in therapeutics. His successor, the celebrated Trousseau, soon caused him to be forgotten. Alibert's best work along those lines was his "New Elements of Therapeutics" and "Materia Medica," which passed through five editions.

Of his nonmedical writings, "The Physiology of the Passions or a New Doctrine of the Moral Sentiments" was perhaps the best known. It went through five editions, the last one of four volumes, and was translated into German and Spanish. It secured for the author, in 1827, a prize of 4,000 francs from the Académie Française, which he unostentatiously gave to a penniless writer.

By 1827, Alibert had reached the peak of his career. His writings, teaching (even though abandoned for ten years) and social prestige all combined to make him one of the foremost physicians not only of France, but of the universe. Scientific bodies in practically all of the European countries gladly elected him to membership, and France was not backward in honoring him. He received the Order of Saint Michael (1817), was made an Officer of the Legion of Honor in 1921, was a founder of the Academy of Medicine that same year, and in 1827 was made a baron by Charles X, because of excellent and loyal services rendered to Louis XVIII.

Like most other French physicians, he maintained an office in his apartment, which during most of his career was located at 4, rue des Varennes. Alibert kept office hours twice weekly. His apartment as

well as the staircase leading to it was garnished with many books. His private office was ornamented in a most unusual fashion. Besides busts of Hippocrates and other outstanding physicians, there were a number of paintings by Redouté. Colored plates from Alibert's works on skin disorders were prominently placed. The visitor was also attracted by cleverly executed models of two sailing ships as well as by extensive collections of butterflies and insects. Alibert also possessed a small dermatologic museum which was shown only to a favored few. It comprised many drawings of skin lesions, meshes of hair from examples of Pilica Polonica, pathologic bones, scales and horny growths.

With his patients, as with every one else, Alibert was the personification of courtesy and kindness. He interested himself in the ailments and personal problems of those who sought his skill. The poorer class were the objects of his particular attention and philanthropy. The Duc de Rochefoucauld-Liancourt referred to his hospital patients as "The jewels of Monsieur Alibert." A considerable portion of his large income was devoted to charity, not a few of his pupils and colleagues being thus assisted. Most of his benefactions were carried out anonymously and not broadcast as is now so often the case. As with Louis Brocq, there was hardly a person of prominence in France who had not consulted Alibert at some time or other.

Physically, Alibert was of medium stature but stocky build. His countenance was both agreeable and expressive, tinged at times with a bit of mockery. His features possessed the power of mimicry which added to his attractions as a speaker. Alibert spoke with a strong accent of the south of France. To the end he wore knee breeches and the finest of linen, but his critics accused him of being careless in his personal appearance. When lecturing, he wore his hat. Alibert was a great lover of his native heath, and those of his compatriots who called on him were sure of a hearty welcome.

Amid many social contacts, Alibert made but few close friends. Bichat, Corvisart, Dupuytren, Recamier, Cruveilhier and Marjolin were among his best friends. Alibert's Sunday dinners were the talk of Paris because of his elaborate hospitality and also on account of the gathering there of the élite among the literary and artistic notables. Science, literature and painting were freely and competently discussed. The latest novels, the best theatricals, statuary deemed worthy of exhibition, all were judged critically, with spirit and finesse, by those whose word was law. Afterward, authors read fragments of their newest productions, poets recited their best lines and musicians and singers gave of their best. At one time Alibert improvised a tiny theater in his home where Mlle. Fleury enacted comedy and even the celebrated Talma performed. After 1830, Alibert reverted to the faith of his fathers, so theatricals were replaced by sermons.

Alibert died on Nov. 9, 1837, after a few months illness, only the last two days being spent in bed. The autopsy by Cruveilhier revealed an extensive gastric carcinoma. He left a fortune of almost 700,000 francs. After resting a short time at Père Lachaise Cemetery, Paris, his remains were taken south and buried at his country home, Chateau de Marin, close to his birthplace.

After his death, the service of Alibert was suppressed. Cazenave succeeded him at the Hôpital Saint-Louis. On his arrival there three years later, Gibert resumed the outdoor clinics of his predecessor.

Time has served to emphasize the value of Alibert's contribution to dermatology. Bazin ranked him with Willan as the two most celebrated dermatologists of ancient and modern times. The first to teach clinical dermatology in France, he exerted a profound influence. Despite his rather fantastic classification and terminology, Alibert was a real pioneer, and he may be appropriately regarded as the founder of the French school of dermatology, which was the opinion of Besnier. That the Hôpital Saint-Louis is today a real dermatologic Mecca is due in no small measure to his efforts.

News and Comment

SCIENTIFIC EXHIBIT, MILWAUKEE SESSION OF AMERICAN MEDICAL ASSOCIATION

Application blanks are now available for space in the Scientific Exhibit at the Milwaukee Session of the American Medical Association, June 12 to 16, 1933. The final date for filing such applications is Feb. 13, 1933, after which time assignments of space will be made. The Committee on Scientific Exhibit requires that all applicants fill out the regular application form. Persons desiring to receive application blanks should address a request to the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

ANGIOKERATOMA MIBELLI. FRANCESO LISI, Gior. ital. di dermat. e sif. **73**:747 (April) 1932.

The author reports five typical cases of this condition in young subjects. Of these, four were associated with acrocyanosis. The patients were all tall, thin and weak. No endocrine disturbance could be found, although in all cases there was a certain degree of vagotonia. Capillaroscopy showed the vessels of the corium to be tortuous, dilated and congested, which leads to the belief that there is primarily a circumscribed dilatation of the venous tracts of the papillae. Histologically, this appears to be the case. Dilatation of the deep venous plexuses was also found, together with slight sclerosis of the deep veins. Dilatation of the lymphatic vessels is interpreted as secondary. The author concludes that angiokeratoma Mibelli is not a tuberculid but a capillary angiodystrophy, probably of toxic nature.

RELAPSING DERMATOFIBROMA OF DARIER. P. PINETTI, Gior. ital. di dermat. e sif. **73**:811 (April) 1932.

This is a report of a case of fibrosarcoma of the skin of the dorsum of the foot of twenty-six years' duration, which had relapsed after being surgically removed twice. Histologically there were zones of typical fibroma, intermixed with zones of sarcomatous, angiomatous and myxomatous structure.

URTICARIA A FRIGORE. C. PISACANE, Gior. ital. di dermat. e sif. **73**:821 (April) 1932.

This article consists of a review of the various forms of urticaria and of the several hypotheses of their pathogenic mechanism. The second part studies more particularly the urticaria a frigore, which the author considers together with mechanical urticaria, urticaria factitia and urticarial syndromes due to physical and chemical stimuli. From his researches and observations he concludes that these cutaneous reactions are due to the formation of a histamine-like substance in the tissues.

PROTEIN FRACTIONS OF BLOOD SERUM IN CUTANEOUS DISEASES AND SYPHILIS. P. CERUTTI, Gior. ital. di dermat. e sif. **73**:858 (April) 1932.

These investigations were conducted in seventy-five patients suffering from various dermatoses and from syphilis in the primary and secondary stages. The protein equilibrium of the blood serum was also studied in nine normal persons for purposes of comparison. The figures found in these nine persons were: total proteins, 72.20 per cent; albumin, 46.31 per cent; globulins, 25.89 per cent, and albumin-globulin index, 1.78.

In a group of cases of scleroderma, psoriasis, lichen planus and erythema multiforme, the data found were normal. A case of urticaria showed an albumin-globulin index that was decidedly low (1.08), and in a case of lupus vulgaris this relation was slightly decreased. In pellagra there was a slight diminution of the total proteins, which returned to normal when the patient improved. In acute weeping eczema there was a well marked diminution of the total proteins and a low albumin-globulin index. These phenomena are undoubtedly related to

the loss of albumin through cutaneous exudation. In the group of bullous dermatoses, such as pemphigus and dermatitis herpetiformis, the total proteins were unusually low and the albumin-globulin index was either low or inverted. These ciphers were directly in relation to the number of bullae present and consequently to the loss of serum albumin, which passes through the diseased capillaries much more easily than globulins. In leprosy there was a low or inverted albumin-globulin index but the total proteins were increased. This appeared to be due to an increase of globulins. Likewise in primary and secondary syphilis there was a slight increase of the total proteins. The albumin-globulin index was within normal limits.

GOUIN'S LEUKOCYTE REACTION IN SYPHILIS. F. CASTOLDI, Gior. ital. di dermat. e sif. **73**:906 (April) 1932.

According to Gouin, "The patient with proved or suspected syphilis reacts with a hyperleukocytosis when given injections of his own blood or of antisyphilitic drugs; under the same conditions, the nonsyphilitic person shows leukopenia."

The author of this article has conducted experiments in eighty-nine cases of syphilis, and concludes: 1. Intravenous injections of soluble mercurial salts and intramuscular injections of bismuth and arsphenamine preparations produce in syphilitic patients a hyperleukocytosis which persists for two hours after the injection. 2. This hyperleukocytosis, although often positive in syphilitic patients, cannot be considered as syphilitic, as it is not constant and as it is also observed at times in nonsyphilitic patients. 3. Compared with the Wassermann and Meinicke tests, the leukocyte reaction is inferior in diagnostic value, being at times negative in patients with florid syphilitic manifestations. 4. Leukopenia following the injection of a certain drug is not sufficient to judge of the efficacy of the preparation against syphilis.

RELATION BETWEEN ECZEMA AND THE URIC ACID DIATHESIS. A. PASINI, Gior. ital. di dermat. e sif. **73**:1013 (June) 1932.

Taking the normal uric acid content of the blood as between 1.50 and 3.00 mg. per hundred cubic centimeters, the author investigated uricacidemia in eczematous patients with a purin-free and a purin-rich diet. In the first instance the uric acid of the blood often was as low as 1.15 mg. per hundred cubic centimeters and was never above 3.00 mg. In the second instance there was no marked increase in the uric acid, which was seldom above 3.00 mg.

From 300 to 600 mg. was taken as the normal amount of uric acid eliminated in the twenty-four hour specimen of urine. The patients on a purin-free diet eliminated as little as 150 mg. and never more than 500 mg., while those on a purin-rich diet eliminated from 300 to 600 mg. in twenty-four hours. From these results it appears that a purin-free diet in eczematous patients results in a diminution of the uric acid of the blood, but a purin-rich diet does not result in a marked increase. Also the elimination of uric acid in the urine is reduced under a purin-free diet, but it is not at all increased under a purin-rich diet.

The introduction into the blood stream of a solution containing 1 Gm. of uric acid resulted in a 50 per cent increase of the uric acid content of the blood in forty-eight hours. The elimination in these cases was not parallel to the increase in the blood. There was therefore an apparent retention of uric acid in the tissues. This retention was supposed to occur, in great part at least, in the cutaneous tissues. Nevertheless, the chemical examination of pieces of skin removed from eczematous patients under the foregoing conditions did not show this supposed retention of uric acid. On the contrary, many patients proved to have a lower uric acid content of the cutaneous tissues than those given a purin-free diet. Without arriving at definite conclusions, the author states that his experiments do not prove that uric acid acts on the skin as a specific allergen in the production of eczema.

PAGET'S DISEASE (CUTANEOUS). A. CROSTI, Gior. ital. di dermat. e sif. **73**:1021 (June) 1932.

The author believes that Paget's disease is due to an epidermic metastasis of an original neoplasm of the sweat glands, the cells of which reach the epidermis owing to the continuity of the cells of the glands with those of the epithelial layers of the skin. The article is accompanied by a number of excellent photomicrographs.

POIKILODERMA ATROPHICANS VASCULARE. N. REBAUDI, Gior. ital. di dermat. e sif. **73**:1063 (June) 1932.

This is an excellent study of the subject, with the report of a case. The author believes that these cases are due to endocrine disturbances, perhaps to a dysfunction of the hypophysis. The article is illustrated with several good photographs and two excellent drawings in color.

CUTANEOUS REACTIVITY OF ECZEMATOUS PATIENTS TO AMINO-ACIDS AND OTHER END-PRODUCTS OF METABOLISM. G. SCOLARI, Gior. ital. di dermat. e sif. **73**:1083 (June) 1932.

This piece of research consisted in the practice of 6,000 cutaneous tests in one hundred and twenty-six cases of eczema, ninety-two of which were in adults and thirty-two in children. Sixty-two normal persons were used as controls. The substances employed were practically all of the amino-acids isolated up to date, lipoids, fatty acids, guanidine, indoles, peptones, etc.

The results were all negative in adult patients, but in about four tenths of the children examined, positive eczematous reactions were obtained. Attempts to produce passive reactions by the Prausnitz and Küstner method ended in failure.

DYSTROPHIES OF THE SKULL AND AORTIC ENLARGEMENT IN CONGENITAL SYPHILIS. BENITO SORIA, Rev. méd. latino-am. **17**:1359 (July) 1932.

The author has observed the frequent association of deformities of the skull and enlargement of the aorta in congenital syphilis. He contends that in all children with dystrophic cranial deformities a roentgenographic study of the aorta should be made. The diameter of the ascending aorta in normal children from 2 to 8 years of age is 1 cm. as a maximum, and in children from 9 to 14 years old it should not be more than 1.3 cm. Higher figures are considered pathologic. Eight cases are reported in detail.

DIFFUSE ANGIOKERATOMA OF THE LEG. A. H. ROFFO, Rev. méd. latino-am. **17**:1391 (July) 1932.

This is a report of a case of multiple angiomatous lesions of the calf of the leg in a child aged 7 years. The lesions had gradually increased in size and were hyperkeratotic. Treatment with radium was successful.

PARDO-CASTELLO, Havana, Cuba.

TREATMENT OF TUBERCULOSIS OF MUCOUS MEMBRANE BY FREEZING. R. NUSSBAUM and B. TEBRÜGGE, Arch. f. Ohren-, Nasen- u. Kehlkopfh. **131**:227 (May 23) 1932.

Nussbaum and Tebrügge think that freezing is the method of choice in the treatment of tuberculosis of the mucous membrane. They base their opinion on five years of experience with this form of therapy. Carbon dioxide snow mixed with acetone was used for the freezing, and the essential point of technic is the application of a sufficient quantity under sufficiently strong pressure for a suffi-

ciently long time. The freezing of the mucous membrane heals the local ulcerative process in the shortest time with a certainty not approached by any other method even when the pulmonary tuberculosis and the general condition of the patient are very poor, as is usually the case in tuberculosis of the pharynx and the mouth. Scar formation takes place without destruction of tissue, leaving a smooth, soft scar and resulting in a minimum of functional disturbance. The painlessness of the freezing process, which is preceded by cocainization, is another advantage of this therapy. The authors experienced no recurrences among their patients. No complications or harmful general reactions were observed. The biologic effect of the freezing is still obscure.

EDITOR'S ABSTRACT. [ARCH. OTOLARYNG.]

TYPES OF GENERALIZED XANTHOMATOSIS. G. NOBLE, Dermat. Wchnschr. **94**:877 (June 25) 1932.

The author describes four cases of xanthomatosis which presented unusual features.

1. A woman, aged 46, had had xanthoma palpebrarum for six years. The lesions became hard and swollen with an associated enlargement of the nose, apparently periosteal in origin. The cholesterol content of her blood was always within normal limits.

2. A baby, aged 9 months, presented a massive enlargement of the liver and spleen in association with an extensive xanthomatosis of the skin, affecting chiefly the palms, soles and scalp.

3. A woman, aged 45, had suffered from jaundice and an enlarged liver for three years, during which time a generalized xanthomatosis developed. The cholesterol content of the blood varied from 250 to 310 mg. per hundred cubic centimeters on a normal diet.

4. In a man who had acquired syphilis twenty years previously, and who had been intensively treated for a recurrence, xanthomas developed on the elbows and palms. His liver was somewhat enlarged. The cholesterol content of the blood was 380 mg. per hundred cubic centimeters.

ULCUS RODENS PIGMENTOSUM. L. KUMER, Dermat. Wchnschr. **95**:965 (July 2) 1932.

Two patients were observed, each of whom presented extensive, superficial basal cell epitheliomas of the superficial type. The lesion in each case showed rather numerous pigmented areas clinically. They had been present for about twenty years in each instance, and no glandular involvement was present. In one the lesion was on the upper part of the chest and shoulder while in the other it involved the axilla. Histologically both were typical basal cell epitheliomas with the addition of grouped and scattered pigment-containing cells. The literature in regard to this type of basal cell epithelioma is briefly reviewed.

CHLORYLENE (TRICHLORETHYLENE) AS AN INHALATION ANESTHETIC FOR OPERATIONS ON THE SKIN OF THE FACE. P. KELLER, Dermat. Wchnschr. **95**:973 (July 2) 1932.

The inhalation of from 20 to 25 drops of trichlorethylene (taking care not to touch the skin with the chemical) serves to produce anesthesia of the skin of the central portion of the face, lasting for several minutes. In favorable instances this is sufficient to allow minor surgical procedures to be carried out. There are no dangerous after-effects. (Neurologists who have used this drug to combat trigeminal neuralgia tell me that its action is too uncertain to suggest that it would be useful as an anesthetic. The desired effect sometimes does not occur until after several days of use. L. R. T.)

EMBOLIA CUTIS MEDICAMENTOSA FOLLOWING THE INTRAMUSCULAR INJECTION OF A SUSPENSION OF BISMUTH. CARL MONCORPS, Dermat. Wchnschr. **95**:976 (July 2) 1932.

Three cases are reported of epidermal embolism following the intramuscular injection of an insoluable bismuth preparation. In each instance the lesion appeared as a livid macular lesion below the site of injection. It was ushered in with severe pain and tenderness, which lasted for several days. This type of accident does not contraindicate further injections, but the original site of injection should be avoided.

ALLERGIC NATURE OF BAKER'S ECZEMA. ERNA ZITZKE, Dermat. Wchnschr. **95**:1009 (July 9) 1932.

Intracutaneous and patch tests were made on a group of ninety-eight bakers suffering with chronic, subacute and acute eczema and on a group of twenty-three controls without cutaneous eruptions. The substances used were pure flour, flour with various improving substances, the improving substances alone and yeast, sour dough and baking powder. Of the group of bakers tested with pure flour, 44.9 per cent showed positive reactions, 69.4 per cent reacted to improved flour and 51 per cent to the improving substances. The tests on the controls gave negative results, for the most part. The author concludes that baker's eczema is usually an allergic dermatosis which may develop in a person with an inherited tendency toward sensitization or it may develop in any baker working under unsatisfactory conditions. The flour-improving substances (often ammonium persulphate) may be the determining factor. A number of the cases of "baker's eczema" are really instances of dermatomycosis.

THE HISTOLOGY OF LEIOMYOMA OF THE SKIN. PANAGIOTIS PHOTINOS, Dermat. Wchnschr. **95**:1053 (July 16) 1932.

The patient presented two tumors, one on the right leg and the other on the right forearm. They were the size of a bean and a cherry pit respectively, painless and not tender, and they had been present for from five to ten years. One was excised and histologically was shown to consist of smooth muscle cells. The presence of blood vessel-like spaces which contained no blood cells leads to the conclusion that the muscle elements were derived from the blood vessels walls. This point of view is further supported by the presence of fibrillar connections between the large vessels and the tumor mass at its periphery.

TREATMENT OF LYMPHOGRANULOMATOSIS INGUINALIS WITH A SPECIFIC ANTIGEN. J. GAY-PRIETO, Dermat. Wchnschr. **95**:1056 (July 16) 1932.

The author treated five patients with Nicolas-Favre disease by intravenous injections of lymphogranulomatosis antigen. Two of the patients had rectal involvement. All were markedly benefited or cured. The first injections cause a marked rise in temperature, but after the desensitization has started, further injections do not incite a general reaction.

WHITE TRANSVERSE BANDS ON THE FINGER NAILS. WALTHER KRANTZ, Dermat. Wchnschr. **95**:1081 (July 23) 1932.

A patient was observed four months after the ingestion of a large dose of thallium taken with suicidal intent. All the nails presented a transverse white band, 3 mm. wide, about half way between the base and the free edge. This band matched the color of the lunula rather than the porcelain white of the usual type of leukonychia. The author found references in the literature to a similar transverse band formation occasionally following x-irradiation, severe general illnesses (typhus, relapsing fever, measles and rheumatism) and severe poisoning (arsenic, thallium and mercury.

HEMOSIDEROSIS RACEMOSA (RETICULARIS) PROCREDIENS OF OLD PEOPLE. JOSEF SELLEI, Dermat. Wchnschr. **95**:1125 (July 30) 1932.

The eruption consists of a reticular distribution of tiny hemorrhages, telangiectases and areas of pigmentation from the size of a pinhead to that of a lentil. It is usually located on the legs and thighs, less frequently affecting the forearms and rarely the trunk. It clears spontaneously, but tends to recur from time to time. It is probably due to an increased permeability of the capillaries which appears with increasing age.

THE RÔLE OF THE LIPOID OF THE NORMAL CELLS OF THE EPIDERMIS IN ACUTE AND CHRONIC ILLNESSES. TIBOR WLASSICS, Dermat. Wchnschr. **95**:1128 (July 30) 1932.

With sudan III the author stained frozen sections of the skin from over the manubrium of one hundred and twenty-one persons who had died as a result of accident or from various diseases. He graded the amount of fat found in the epidermis and concluded:

1. In acute diseases, in which the defense reaction of the organism is heavily drawn on, the amount of fat is markedly decreased in the epidermal cells.

2. In chronic diseases the amount of fat is normal or increased.

3. Since the lipoid has antigenic properties and since its amount is different in acute and chronic conditions, it is probable that the lipoid of the normal cells of the epidermis has an important rôle in the defense reaction of the organism.

CHRONIC TROPHEDEMA (NONNE'S, MILROY'S OR MEIGE'S DISEASE) AND NAEVUS VARICOSUS OSTEOHYPERTROPHICUS KLIPPEL-TRENAUNAY (HEMANGIECTASIA HYPERTROPHICUS PARKES WEBER). L. KUMER, Dermat. Ztschr. **64**:129 (July) 1932.

A 49 year old patient presented elephantiasiform swellings of both lower extremities, enlargement of both hands, lengthening of the right leg, deep varicose veins of both legs and an extensive naevus flammeus covering about a fourth of the body surface. Four types of trophedema are recognized: (1) chronic trophedema hereditary, familial but not congenital, generally appearing at puberty (Meige); (2) chronic trophedema, hereditary or familial, not congenital and appearing at any age following trauma or inflammation; (3) chronic trophedema, congenital, hereditary and familial (Nonne, Milroy), and (4) chronic trophedema, congenital, nonhereditary and not familial. The association of an extensive naevus flammeus with a hemiatrophy and varicose veins has been described as a clinical entity by Klippel and Trenaunay, Parkes Weber and others.

CLINICAL FEATURES AND THERAPY OF SCLERODACTYLIA: PROGRESSIVE SCLERODERMA (ACROSCLEROSIS). JOSEF SELLEI, Dermat. Ztschr. **64**:138 (July) 1932.

The author distinguishes sclerodactylia or progressive scleroderma from other types of scleroderma under the term acrosclerosis. This condition is considered as one of the angiotrophoneuroses, a disturbance of the vegetative nerve system, while scleroderma is caused by a dysfunction of the ferment-producing organs, principally the pancreas. Administration of pancreas and stomach extracts always is helpful in scleroderma, while the same therapy is of but temporary benefit in acrosclerosis.

EPICUTANEOUS TUBERCULIN REACTION IN TUBERCULOSIS OF THE SKIN AND TUBERCULID (IMMUNOBIOLOGIC OBSERVATIONS ON THE SKIN). E. NATHAN and P. KALLÓS, Dermat. Ztschr. **64**:146 (July) 1932.

The authors performed patch tests with a 1 per cent solution of old tuberculin on one hundred and sixty-eight patients. Twenty-eight had tuberculosis of the skin with or without tuberculosis of other organs, seventy had open pulmonary tuberculosis without cutaneous manifestations, fifty presented skin diseases without tuberculosis and twenty had no eruption and no evidence of tuberculosis. Eczematoid reactions occurred only in persons with tuberculosis of the skin and in a few with tuberculids. This indicates the presence of an epidermal hypersensitiveness in tuberculosis of the skin.

THE ETIOLOGY AND THERAPY OF FURUNCULOSIS AND ACNE VULGARIS. WALTER STAHL, Dermat. Ztschr. **64**:172 (July) 1932.

In one hundred and fifty cases of acute and chronic furunculosis and in ninety cases of acne vulgaris, positive cultures of the blood were obtained by means of an enriched culture medium. The organism in the first group was Staphylococcus aureus and that in the second, Staphylococcus albus. Autovaccines were made and were therapeutically useful when given intracutaneously.

TAUSSIG, San Francisco.

A CASE OF PHLYCTENULAR PAPULE ON THE LIMBUS CORNEAE. S. WATANABE and KITAJIMA, Lues: Bull. Soc. japon. de syph. **7**:258 (May) 1932.

In a man, aged 36, besides the signs and symptoms of secondary syphilis, such as recurrence of chancre, dime-sized, crusted lesions on the scalp, general adenopathy hoarseness and a strongly positive Wassermann reaction of the blood, a phlyctenular, pinhead-sized, conical, somewhat yellowish nodule developed on the border of the cornea of the right eye two and one-half months after a primary lesion on the penis. It was almost not movable on the sclera and had on the surface a small, superficial, clean erosion. There was marked injection of the vessels of the conjunctiva bulbi around the nodule, while the conjunctiva palpebrae was not affected.

The Pirquet reaction was negative.

After two injections of arsphenamine the nodule diminished to half its former size; pain and redness disappeared, together with the other secondary syphilitic lesions.

The extirpated nodule was examined histologically, and the following pathologic condition was found: a sharply limited infiltration in the mucosa consisting of many fibroblasts, a moderate amount of lymphocytes, a small number of plasma cells and numerous giant cells, mostly of Langhans' type. There were no epithelioid cells.

THE RELATION BETWEEN BONE CONDUCTION AND THE PRESSURE OF CEREBROSPINAL FLUID IN SYPHILITIC PERSONS. Y. KATAYAMA, Lues: Bull. Soc. japon. de syph. **8**:30 (June) 1932.

Of ninety-seven syphilitic persons examined by the author, three showed a pathologic increase in the pressure of the fluid (above 200 mm. of water); of the three only one had shortening of bone conduction. In four patients there was a pathologic decrease in the pressure of the fluid (under 60 mm. of water); two of them had shortening of bone conduction. In 70 per cent of the cases, the pressure was normal (between 60 and 150 mm. of water), independent of the presence or absence of a shortening in bone conduction.

The author found also that a decrease in pressure by means of lumbar puncture does not influence the shortened bone conduction.

BLOOM, New York.

Society Transactions

CHICAGO DERMATOLOGICAL SOCIETY

E. A. Oliver, M.D., *Secretary*

Regular Meeting, March 16, 1932

Michael H. Ebert, M.D., *President, Presiding*

Miliary Nodular Tuberculosis (Rosacea Type). Presented by Dr. Oliver S. Ormsby.

A man, aged 32, had a disorder of two and one-half years' duration. There was nothing of significance in the history, and he complained of no subjective symptoms.

The lesions were situated on the cheeks and forehead, behind the ears and on the sides of the neck. In these areas there were groups of bluish and brownish-red papules, varying in size from that of a pinhead to three times this size. On pressure, a distinct brown discoloration remained in the area occupied by each papule.

DISCUSSION

Dr. F. E. Senear: I felt that this condition was in all probability a miliary form of tuberculosis. It is extremely interesting, because at a distance it made one think of lupus erythematosus, and yet under the diascope the small nodules that were present would suggest miliary tuberculosis. I have seen two of these cases that resembled rosacea. I did not treat the first patient, but the second has made a good recovery since receiving generalized ultraviolet irradiation.

Dr. Frederick Schmidt: I saw this patient in the fall, 1931. The lesions were then about one-third as numerous as they are now, and the scarring that is present was not seen at that time.

Dr. Oliver S. Ormsby: The reason I showed this patient was that his disorder has been a topic of discussion for some time. These patients are ordinarily considered as having rosacea, and have been treated for rosacea. I do not believe that this condition is the type that has been described as lupus miliaris disseminatus faciei. Both disorders are of tuberculous origin, but in the latter the lesions occur in crops, which last for only a few weeks and then disappear, a new crop appearing. Tubercle bacilli have been found in these lesions, and they take the course of a tuberculid. This case differs in that the lesions are persistent and do not occur in crops, and while new ones appear from time to time they are not characterized by the symptoms so well described by Dr. Wise a few years ago in lupus miliaris disseminatus faciei. I think that the interesting point in this case is that the condition is miliary nodular tuberculosis of the face, which resembles rosacea, and which we have found resistant to the usual methods of treatment employed in rosacea.

Blastomycetic Dermatitis. Presented by Dr. Edward A. Oliver.

G. S., a Negro, aged 38, stated that while in France in June, 1918, he had a cutaneous eruption which was accompanied by pruritus and a burning sensation. The lesions were localized between the thighs and the buttocks. After his discharge from the army, the eruption became more marked, and finally broke down. He treated himself until 1923, when he was forced to enter a hospital. At that time a diagnosis of condyloma was made. Three months of treatment

in the hospital did not relieve the condition. The eruption was confined to the left thigh and hip until 1929, when the right side also became involved.

The patient was given intensive courses of roentgen therapy and of potassium iodide and intravenous medication. In April, 1931, a roentgen burn developed on the left side. This was operated on, and skin was grafted from the left thigh. Shortly after this operation, there was pronounced swelling of the penis and scrotum, which persisted. The patient was first seen by Dr. Oliver at the United States Veterans' Hospital a month before presentation.

Examination showed an extensive eruption of blastomycetic dermatitis on the inner aspect of both thighs, extending up over the buttocks and the lower portion of the back. Over the left buttock and the inner aspect of the thigh the skin was the seat of telangiectasia and atrophy, the result of an old roentgen burn. The penis and scrotum were swollen and edematous.

Biopsy showed the typical architecture of blastomycetic dermatitis. Many double-contoured organisms of blastomycosis were seen in the section.

DISCUSSION

DR. OTTO H. FOERSTER: The condition impressed me as an involuting blastomycosis, with associated lymphedema of the scrotum.

DR. EDWARD A. OLIVER: There is nothing to be said about the case except that it is an extensive and unusual type of blastomycetic dermatitis and has been under observation for three months. We are giving the patient intensive therapy.

PHENOLPHTHALEIN ERUPTION. Presented by DR. EDWARD A. OLIVER.

A Negro, aged 29, six months before presentation had an attack of herpes zoster. Shortly afterward, he noticed some dark red pigmented spots on the cheeks, forehead and arms. The lesions had gradually grown darker and varied in size from that of a pea to that of a dime. Some were irregular in outline. On the forehead and cheeks the eruption was mottled, while on the flexor surfaces of the arms it was discrete and well marked. The patient stated that he had been troubled with constipation and had taken Feenamint tablets, magnesia and "666."

DISCUSSION

DR. S. W. BECKER: I think that the only thing that can be said is that the patient has local pigmentary lesions. The grayish color shows that pigment is located in the dermis, and I think that this condition probably followed some sort of inflammatory lesions.

DR. F. E. SENEAR: I think that, clinically, the case suggested phenolphthalein dermatitis, and there is a history of the patient taking Feenamint.

DR. EDWARD A. OLIVER: I think that the condition is a phenolphthalein eruption. The patient has been taking a number of medicines for constipation, Feenamint gum, phenolphthalein and a patent medicine called "666," which contains no phenolphthalein.

BLASTOMYCOSIS, RESISTANT. Presented by DR. ARTHUR W. STILLIANS.

A man, aged 38, an Italian laborer, first noticed pustules between the fingers of the left hand four years prior to presentation. Similar lesions soon appeared on the face and back, some of which healed spontaneously, leaving a scar, but many more lesions appeared. For several months he was treated with iodides, injections into the arm and "electric" treatment at Cook County Hospital. He then went to the Northwestern University dispensary. At that time only the lesions over the left eye, which involved the upper lid and brow, remained. He was then treated with potassium iodide, 20 Gm. per day by mouth, for a month, without noticeable effect on the lesions. Although he was taking this amount of iodide, blastomycetes were abundant in the pus from the lesions. The administration of the iodides was continued, and the lesions were cauterized with the

electric knife on four occasions. Three weeks after the fourth treatment, blastomycetes still were abundant. The fifth treatment removed most of the lesions, but two weeks later a slight recurrence, with active blastomycetes, had to be cauterized. From that time on, all surfaces suggestive of the infection were painted with half strength tincture of iodine, and the administration of iodides by mouth was continued. There were two subsequent cauterizations, but no organisms were found.

On presentation the brow was seen to be scarred and hairless, but it was free from inflammatory lesions. The upper lid was badly deformed and partly destroyed, but only a little active disease was visible on the inner third of the upper lid. In addition, there were scars under both eyes and extropion of the right lower lid.

DISCUSSION

DR. CLARK W. FINNERUD: I presented this patient twice, the first time when there was a general distribution consisting of thirty-three lesions. The condition almost completely cleared up after the administration of neoarsphenamine and potassium iodide; later some roentgen therapy was employed at the Central Free Dispensary. The interesting fact now is the involvement of the left palpebral conjunctiva, a rare manifestation of blastomycosis.

DR. ARTHUR W. STILLIANS: I did not mean to give the impression that all the improvement was due to treatment with tincture of iodine externally and iodides internally. Surgical measures have also been employed extensively.

LYMPHOGRANULOMATOSIS INGUINALE? Presented by DR. F. E. SENEAR and DR. MAX S. WIEN.

A white man, aged 67, born in Germany, had been in this country for forty-two years, constantly residing in Chicago. He first noted backache in October, 1930, the pain radiating to the right groin and thigh, and within three weeks enlarged, moderately tender glands were noted in both groins. Incision of these glands in May, 1931, resulted in the discharge of light-colored pus, but healing did not take place. New swelling of the glands appeared, and the ulcers continued to discharge at the site of the old lesions; subsequent incision of the new glandular enlargements resulted in the same slow, indolent course, without healing after incision. The lesions appeared on the adjacent thighs and the abdomen, with greater involvement on the right side. The condition had been relatively stationary for ten months preceding presentation, as far as the development of new lesions was concerned. The patient said that he had not had venereal disease, and he stated that the condition was not preceded by a penile lesion. He first came under the observation of the presenters on Jan. 26, 1932.

The patient presented bilateral involvement of the groins, the adjacent portion of the thighs and the abdomen, with greater involvement on the right side. The lesions were indurated, reddish-brown plaques that were surmounted by linear, puckered scars which represented the site of discharge in the inactive lesions. There was only slight pain over some of the areas on pressure. On admission, a seropurulent discharge was noted from some of the ulcers.

General examination of the patient gave negative results, except for an enlarged prostate and kyphosis in the fourth lumbar region, which an orthopedic surgeon stated was due to osteo-arthritis with associated involvement of the sacro-iliac joint and was not tuberculous. Injection into the ulcers of iodized poppy seed oil 40 per cent revealed oil only superficially in the soft tissue adjacent to the point of injection and no penetration to the deeper tissues or to the bone. The intradermal Frei test, with material supplied by Drs. Cole and Van Cleve, was positive on three different occasions, there being a positive reaction at the time of presentation as the result of an intradermal injection of this antigen forty-eight hours previously. Serologic tests of the blood were negative for syphilis. The urine was normal. The blood showed 70 per cent hemoglobin, 4,500,000 erythrocytes and 8,700 leukocytes, and the differential count showed 37 per cent poly-

morphonuclears, 51 per cent lymphocytes, 6 per cent monocytes, 5 per cent eosinophils and 1 per cent basophils.

A biopsy specimen taken from the groin showed the epidermis to be normal and the corium to be edematous throughout. About the blood vessels and sweat glands were mantles of dense infiltration consisting largely of lymphocytes, with fewer epithelioid cells, plasma cells and eosinophils. Similar strands of infiltration extended into the fatty tissue, but here there were more epithelioid cells. The vessel walls were unchanged.

Scrapings obtained from a deep sinus showed fibrous and fatty connective tissue, with many areas of degeneration, dense mantles of perivascular infiltration similar to those described, a diffuse infiltration of epithelioid cells and no changes in the vessel walls. No tubercle bacilli and no giant cells were found in either specimen.

LYMPHOGRANULOMATOSIS INGUINALE. Presented by DR. E. P. ZEISLER.

A painful bilateral inguinal bubo developed in a young man four weeks after exposure. The bubo developed rapidly, and the glands, at first discrete, became matted together, broke down and suppurated. When the patient was first seen one month before presentation, no lesion of any kind was noticed on the genitalia, nor was there any urethral infection. Examination of the blood gave negative results, and repeated Wassermann tests showed either a negative or a 1 + reaction. The purulent material from the glands was aspirated by needle puncture, and the material was prepared for a cutaneous test, according to the method of Frei and Hoffman. A strongly positive intracutaneous reaction was obtained and remained visible after an interval of one week. Physiologic solution of sodium chloride was used as a control.

The only treatment used had been drainage and an iodoform emulsion. The bubo was slowly receding.

DISCUSSION OF CASES OF DRS. SENEAR AND WIEN AND OF DR. ZEISLER

DR. RUBEN NOMLAND: In the February, 1932, issue of the *Annales de dermatologie et de syphiligraphie* (vol. 3, p. 97) Ravaut and Cachera have an extensive article on lymphogranulomatosis inguinale. The interesting thing was that they were able to produce a positive Frei test by the injection of material from the brain of an infected monkey which apparently was just as efficient as the method discovered by Frei.

DR. EDWARD A. OLIVER: It has been my impression that in acute cases like this there should be a primary lesion on the genitalia. Some years ago, when my associate and I were handling chancroid infections, we commonly saw these indurated masses of glands in the inguinal region. They are always difficult to handle, and generally necessitate complete extirpation. Since the Frei test is positive, the diagnosis of lymphogranulomatosis in this case is certain, but this mass of glands is just the type we saw in old chancroid infections.

DR. F. E. SENEAR: I spoke of our not presenting this case as a definite one of lymphogranulomatosis inguinale. The patient was sent to us as having a case of Pott's disease, so our first thought was that we were dealing with tuberculous adenitis; however, that was ruled out, and in attempting to rule out other conditions we obtained material for the Frei test from Dr. Cole, and have obtained definitely positive reactions on three occasions, although not nearly so positive as in Dr. Zeisler's case, perhaps because of differences in the acuity of the conditions. The case was presented as one of chronic inguinal adenitis, with lymphogranulomatosis inguinale as a possible diagnosis.

DR. E. P. ZEISLER: The patient I presented has had repeated negative Wassermann reactions and no genital lesions of any kind. He was examined in the urologic department, and no pathologic condition was found in the urinary tract. My understanding of the original lesion in lymphogranulomatosis is that

it is a small, papular, herpetic lesion that lasts for only a few days and is followed by suppurative adenitis. I am presenting this patient with a provisional diagnosis of lymphogranulomatosis inguinale on account of the positive Frei test.

A Case for Diagnosis (Dermatitis Herpetiformis? Pemphigus?). Presented by Dr. S. W. Becker and Dr. M. E. Obermayer.

A white man, aged 28, was first seen one week previous to presentation. He had a maculovesiculobullous eruption, which involved the face, neck, shoulders, back, and upper part of the arms. A distinctly hemorrhagic bulla was present on the upper part of the right arm.

The patient stated that the condition began in August, 1926, with numerous pea-sized vesicles on the face and neck. A short time later vesicles appeared on the penis and scrotum, and bullous lesions developed in the mouth. Subsequently, similar lesions appeared on the chest and back, and there had been successive crops of bullae in the normal skin, chiefly on the face, neck, upper part of the arms, shoulders and back. There were few lesions on the lower extremities. The patient was first presented before the Chicago Dermatological Society by Dr. Wien, in October, 1926. The differential diagnosis was between pemphigus and dermatitis herpetiformis.

The present examination of the chest and heart gave negative results. The lymph nodes were generally palpable. Dermographism and marked hyperhidrosis palmarum were present. The patient showed various signs of neurocirculatory instability.

Examination of the blood showed 4,940,000 erythrocytes, 7,000 leukocytes and 90 per cent hemoglobin. The differential count showed 51 per cent polymorphonuclears, 7 per cent large mononuclears, 27 per cent small mononuclears, 4 per cent eosinophils and 1 basophil. The platelets appeared normal. The basal metabolic rate was — 10 per cent. The blood pressure was 132 systolic and 90 diastolic. The Wassermann and Kahn reactions were negative. A specimen of blood had been sent for phytopharmacologic examination to Dr. Pels, but the report had not yet been received. Sodium iodide in a petrolatum preparation containing a derivative of wool fat (50 per cent) applied to the upper part of the right arm produced no reaction.

Examination of the eyes, ears, nose and throat revealed primary atrophic rhinitis, which had probably been present since childhood, and chronic right maxillary sinusitis.

DISCUSSION

Dr. F. E. Senear: Dr. Obermayer asked Dr. Wien to discuss this case, but he was unable to wait and requested me to read his notes.

The patient was first seen by Dr. Wien in August, 1926, at which time there was a vesicular eruption on the exposed parts that rapidly spread while the man was under observation and became a generalized vesiculobullous eruption. Subsequently, lesions developed in the mouth. He was seen by Dr. Senear and Dr. Pusey in September, 1926, and was shown at the October, 1926, meeting of this Society. The general impression was that he had pemphigus, although Dr. Lieberthal suggested the possibility of bullous dermatitis herpetiformis. The patient subsequently was given the Davis treatment, at intervals, for one year, with considerable improvement. He was also given injections of whole blood. The subsequent benign course of the disease, with the development of grouped vesiculobullous lesions associated with smarting and pruritus, seemed to warrant a change of diagnosis to bullous dermatitis herpetiformis. The patient was seen only occasionally during 1928 and 1929, as his condition was good, with only occasional outbreaks of vesicles. He was last seen by Dr. Wien on Jan. 7, 1931, when he had a few grouped vesiculobullous lesions on the face and the upper part of the trunk.

Dr. M. E. Obermayer: We do not believe that the case is one of true pemphigus, as the duration speaks against it. Dr. Pels' report on his examination

of the blood has not yet been returned. We consider the condition a bullous type of dermatitis herpetiformis.

NOTE.—The phytopharmacologic test showed a toxicity of 57 per cent, which suggests the diagnosis of pemphigus. We have sent another specimen of blood to Dr. Pels, but the result of that examination has not yet been received.

PUSTULAR PSORIASIS? Presented by DR. MICHAEL H. EBERT.

A mulatto woman, aged 30, presented an eruption which had developed when she was 10 years of age. It was worse in the late winter and early spring. There were some itching and pain in the legs, but the other lesions gave no sensation. There was no history of arthritis. The patient had had scrofula in childhood.

The lower extremities were most markedly affected. Large plaques occupied nearly the entire surface of each leg. These plaques were well defined and not raised. The surface appeared glazed, and in places there were grayish scaled crusts. At times intra-epidermic pustules could be seen under this glaze. These were transitory. On the thighs were numerous papules, varying in size from that of a pinhead to that of a match-head, which were apparently follicular and were covered by an acuminate scale. There were also larger flat-topped papules covered with a silvery scale. When this scale was removed the surface of the papule was dry. Smaller but less marked lesions were present on the upper extremities and were confined to the extensor surfaces, where they appeared more psoriasiform. There were typical psoriatic plaques on the knees. The nails were not changed.

DISCUSSION

DR. MICHAEL H. EBERT: Since this patient was first seen, she has received some roentgenotherapy that has changed the appearance of the lesions markedly. When she was first seen there were numerous pustular lesions similar to the one now present on the right leg.

DR. J. H. MITCHELL: I saw this patient two weeks ago, and not knowing she was Dr. Ebert's patient and wishing to have a color photograph of the lesions, I asked her to come to my office. At that time the lesions on the calf were definitely rupioid, and in my opinion there was then no question about the lesions on the legs being psoriasis. Those on the elbows were suggestive of some other condition, possibly lichen planus. I used roentgenotherapy over the legs and on the outer surface of the arms, and the appearance has decidedly changed since then as a result of the reaction to this treatment.

DR. CLARK W. FINNERUD: This case interested me because psoriasis, though a common disease, is so uncommon in the colored race, and because of the pustular element, pustules being uncommon in psoriasis even in the white race. I presume that this is pustular psoriasis, but I wonder whether in this instance hygienic conditions might not be a factor, just as we see other conditions which commonly are not pustular, such as pustular lesions, in colored persons. Histologically, the condition was strongly suggestive of psoriasis.

DR. MICHAEL H. EBERT: One reason I was eager to present this case is that most of the cases of pustular psoriasis reported in the literature have been shown at the German clinics. Dr. Doerfler saw this patient and had no hesitancy in pronouncing the condition pustular psoriasis. I thought that this was important, for one sometimes wonders what is meant when the term "pustular psoriasis" is used. The small lesions with the white scale would easily pass for psoriasis. The large glazed lesion on the leg, from which the biopsy specimen was taken, did not show the usual psoriasiform structure. There was more edema of the rete, and intra-epidermal, subcorneal accumulation of polymorphonuclear neutrophil leukocytes was present. The thing that impressed me was, as Dr. Finnerud remarked, that although psoriasis is rare in the colored race, this apparently is a case of pustular psoriasis.

DR. OLIVER S. ORMSBY: For several years my associates and I have had two sisters under observation, and in certain stages of their disorder the diagnosis of

psoriasis would not be questioned, for the lesions are perfectly typical. At other times, when the lesions are more inflammatory, with numerous pustules and crusts, this diagnosis might be questioned. Another point is that our patients have a different type of pustule from anything I have seen except in dermatitis repens. The pustules are flat, nonelevated and small. The patient seen today had one such pustule on the arm. The disorder may not be psoriasis; it may be an independent disease, and whether or not pustular psoriasis is the best name for it I cannot say, but there are patients who have lesions of this type, and they may form an independent group.

DR. MICHAEL H. EBERT: I have been looking for pustules in psoriasis for a long time. I saw them in a patient of Dr. Ormsby's whom he has been treating for years, and there was no question about the diagnosis of psoriasis. When the patient came to us with the usual psoriatic patch on the sacrum, I looked at it closely and saw the glazed surface and numerous little pustules that Dr. Ormsby has described. I could not make a biopsy in that case, but I did make smears, and I found the type of material one would expect to find in that type of lesion in psoriasis. There was no inflammatory areola or anything of the sort.

A CASE FOR DIAGNOSIS. Presented by DR. ARTHUR W. STILLIANS.

H. C., a boy, aged 5, had a history of an injury to the right eye at birth. When he was 4 months old his mother noticed a brown patch on the lower part of the abdomen. Similar lesions gradually appeared on other parts of the body, and after several years had spread to the areas involved at presentation and remained stationary.

The lesions consisted of dark brown to black warty patches of various sizes. There was hyperkeratosis of the palms and soles. The areas chiefly involved were the neck, axillae, bicubital fossae, genitalia, groins, buttocks, popliteal spaces, palms and soles and the backs of the hands. There were a few hyperkeratotic lesions on the upper surface of the feet, on the flexor surfaces of the wrists, on the backs of the heels and over the achilles tendons. Streaks could be seen extending downward and inward from the sides of the abdomen. Bullae were present about 1 cm. above the umbilicus. Some itching was complained of.

The results of the Wassermann test of the blood and of the urinalysis were negative. Examination of the blood showed 5,200,000 erythrocytes, 10,100 leukocytes and 90 per cent hemoglobin. The differential count showed 63 per cent neutrophils, 35 per cent lymphocytes and 3 per cent eosinophils.

DISCUSSION

DR. OLIVER S. ORMSBY: This is the sort of case that years ago would have been called ichthyosis hystrix. We now classify such cases as verrucous linear nevi.

DR. ARTHUR W. STILLIANS: We also thought of the diagnosis of acanthosis nigricans.

ERYTHEMA, GENERALIZED. Presented by DR. EDWARD A. OLIVER.

J. P. H., a white man, aged 36, in March, 1928, sustained a gunshot wound in the left upper quadrant of the abdomen. The bullet was removed surgically on the same day, and a draining fecal fistula had been present since that time.

In 1929, severe pruritic erythema developed over the entire body. During the following three years, the patient had used various lotions and ointments, without benefit. The erythema and accompanying irritation had become progressively worse and were more severe at the time of presentation than at any time since the onset.

The Wassermann and Kahn reactions of the blood were negative, and all blood findings were within normal limits.

Examination showed a generalized erythema involving the entire body with the exception of the face and the neck. The skin was pinkish red and not infiltrated, and paled on pressure.

DISCUSSION

DR. CLARK W. FINNERUD: This case, I think, is likely to prove to belong in the lymphoblastoma group.

DR. S. W. BECKER: I think that the patient has erythroderma, but I believe that it is too soon to make a definite diagnosis. Crude coal tar and ultraviolet rays may improve the condition.

DR. OLIVER S. ORMSBY: It is almost exactly two years since I presented a man who had erythroderma much like that in this case. The skin showed some thickening, and there were intense pruritus and a few palpable glands, but the blood picture was normal. Notwithstanding, we presented the case as potentially leukemia. About three months before this meeting, after a long automobile trip and exposure to the cold and wind, this patient had a high temperature, followed by more extensive glandular involvement, greatly increased redness of the skin and a leukemic blood picture. The leukocytes were not greatly increased, but the lymphocytes numbered 80 per cent. In the interim, we had made two or three examinations of the blood that showed no change from the normal.

DR. MICHAEL H. EBERT: Has roentgenotherapy brought about any improvement?

DR. EDWARD A. OLIVER: I am grateful for the discussion. Various therapeutic agents have been tried, but the patient has not improved. I have seen cases that have progressed to leukemia, and have thought of that diagnosis as a possibility in this case, but the robust condition and the youth of the patient made me doubtful. My feeling in the matter was that the condition was possibly due to something in the secretion from the fecal fistula, which had sensitized the skin. Dr. Foerster asked about the dressings. Only plain dressings, no iodoform or anything of that sort, have been applied to the wound. The condition developed so soon after the fecal fistula that I wondered whether that should not be thought of as a sensitizing factor.

TUBERCULOSIS OF THE LIP. Presented by DR. EDWARD A. OLIVER.

F. N., a white man, aged 42, in May, 1931, noticed a condition that began in the right alveolar sulcus; it extended to the mucous membrane of the upper lip on the right side, and at presentation showed an edematous, infiltrated area on the right side of the upper lip, in the center of which was a crusted, superficial ulcer.

The dark-field examination gave negative results. The Wassermann and Kahn reactions were negative, and all blood counts were within normal limits. The patient also presented an anal linear ulcer, from which sections had been taken, and which had been proved to be tuberculosis of the orificial type.

DISCUSSION

DR. ARTHUR W. STILLIANS: I showed a case of tuberculous ulcer of the lip a few months ago in which I obtained a good result from ultraviolet irradiation.

DR. CLARK W. FINNERUD: I was interested in the fact that the patient also had an anal lesion, a finding usually associated with intestinal tuberculosis. As a rule, when lesions appear in the mouth, the condition is almost in the terminal stage, yet this patient seemed to be in quite a good general condition.

DR. E. P. ZEISLER: I was interested in this case because I reported a case of tuberculoma of the lip some years ago and at that time looked up the literature. The lesions usually are secondary, but may be primary. In this case the condition is unquestionably secondary. I think that the patient should be given general irradiation with carbon-arc rays and local treatment with quartz rays.

A Case for Diagnosis (Acanthosis Nigricans?). Presented by Dr. F. E. Senear, Dr. Max S. Wien and Dr. H. Shellow.

G. S., a woman, aged 35, presented an eruption which had involved the face for the preceding five years. Examination showed a rather sharply circumscribed, dusky red dermatitis, with some lichenification over the chin, which extended upward to the lips and the cheeks. The skin of the face outside of this area had a peculiar slaty hue, and the eyelids showed brownish pigmentation. This discoloration had been present for eight years. On exposure to the cold, symmetrical, elongated, livid streaks about 3 cm. wide running vertically would appear on either cheek. The lips and mucous membranes looked distinctly anemic. A large, flat, chloasma-like pigmented nevus that had been present since birth involved the upper inner surface of the left arm and extended to the breast and abdomen. In the axillae, on the back of the neck, and in the flexor surfaces of the elbow, the crural folds and the labia, the skin showed a blackish-brown pigmentation, with a secondary papillary hypertrophy. This condition was first noted eighteen years before presentation, about two years after the onset of a generalized eruption, which was diagnosed by dermatologists in Texas as dermatitis herpetiformis and as eczema. It persisted for seventeen years, disappearing spontaneously three years before presentation, but numerous small, pigmented spots that resulted from this eruption still remained.

The patient had taken potassium arsenite for many years. She also had received many intramuscular and intravenous injections of unknown drugs. No treatment had been given for the eruption presented, except the application of various soaps, which had caused a burning sensation. The patient's hair started to turn gray at 18 years of age, and three years before presentation she became completely white. She had been using "Inecto" hair dye. For many years she had been troubled with indigestion and discomfort in the abdomen. Extreme nervousness and neurasthenia were manifest.

Physical examination gave essentially negative results. The blood pressure was 160 systolic and 110 diastolic. Examination of the blood showed 5,000,000 erythrocytes, 9,350 leukocytes and 75 per cent hemoglobin. A differential count showed: polymorphonuclears, 59 per cent; large mononuclears, 4 per cent; lymphocytes, 31 per cent, and eosinophils, 6 per cent. In one smear 4 myelocytes were found.

A biopsy specimen from a papillary hypertrophied area showed findings consistent with the diagnosis of acanthosis nigricans. A biopsy from the area of the nevus showed many large chromatophores in the upper part of the corium.

DISCUSSION

Dr. J. H. Mitchell: I accepted the case as one of acanthosis nigricans without question.

Dr. E. P. Zeisler: The appearance of this patient suggested a pituitary disturbance, and I think that this possibility should be investigated.

Dr. Clark W. Finnerud: For those who did not see the sections, I wish to say that they were much more suggestive of acanthosis nigricans than were the clinical findings.

Dr. Edward A. Oliver: I think that this case belongs to the same group as the one I showed last month. The location of the eruption, together with the verrucous element and the pigmentation, certainly is suggestive of acanthosis nigricans.

A Case for Diagnosis (Syphilis? Granuloma Annulare?). Presented by Dr. B. B. Beeson.

A white man, aged 22, presented lesions on the backs of the hands and wrists. They started as small red papules which spread peripherally, with the formation of similar areas elsewhere. The lesions once formed had never been absorbed. A Wassermann test of the blood had not as yet been made. A biopsy specimen

was presented. In an area the size of a child's palm were segments of circles made up of dull red, slightly raised, somewhat infiltrated plaques the size of a finger-nail. No scarring was present.

DISCUSSION

DR. CLARK W. FINNERUD: I do not know with what diagnosis this case was presented, but I thought that the condition was rather suggestive of syphilis clinically, and that the section definitely showed syphilis. I think it was not brought out in the history that the patient had what apparently was a primary lesion four years prior to presentation, which healed spontaneously in about four weeks. There was also a history of several gonorrheal infections.

DR. RUBEN NOMLAND: I did not think that the condition was an annular syphilid. It did not seem either nodular or infiltrated enough, and there was too much redness for an annular syphilid. The only way I would be convinced would be by a positive Wassermann reaction or by response to bismuth therapy. I did not think that the history was that of a syphilid.

A CASE FOR DIAGNOSIS (CUTANEOUS TUBERCULOSIS?). Presented by DR. F. E. SENEAR and DR. THEODORE CORNBLEET.

L. O., a Negress, aged 56, had been under observation at the University of Illinois at intervals for seven years, for various changes in the skin. At intervals they were diagnosed as lichen nitidus, erythema induratum, folliclis and sarcoid. Three months prior to presentation inflammatory nodes developed on the legs, which broke down to form punched-out ulcers. The Kahn test of the blood was positive, and the patient was given potassium iodide and mercurial therapy. One month before presentation she began to show a few disseminated, bean-sized nodules, similar to those presented in large numbers on the head, trunk and extremities. They began as painless, slightly tender, firm, subcutaneous, smooth, discrete nodules that were sharply outlined. After about a week the overlying skin would turn purplish, at the same time becoming attached to the nodules. There was no ulceration, and some of the lesions seemed a little smaller than when they first appeared. There were also plaquelike, inflammatory and tender nodes on the calves. Some of these had ulcerated and others had healed with smooth scarring.

Roentgenograms of the chest showed tuberculosis, with cavitation of the left lung.

A biopsy specimen from the lateral part of the chest showed chronic inflammation of the corium and subcutaneous tissue, with an infiltration of round cells and epithelial cells and marked dilatation of the blood vessels.

DISCUSSION

DR. EDWARD A. OLIVER: The picture is that of cutaneous tuberculosis. Dr. Senear and I talked over this case before it was shown, and I believe that the condition is a sarcoid of the Darier-Roussy type. The histologic sections, I believe, definitely substantiate this diagnosis.

DR. S. W. BECKER: The histologic sections were those of the type of tuberculosis found in erythema induratum or subcutaneous tuberculid and were not those of sarcoid.

DR. MICHAEL H. EBERT: I did not think that the lesions were deep enough for the Darier-Roussy type of sarcoid.

DR. ARTHUR W. STILLIANS: The patient had deep lesions on the buttocks, arms and trunk, which could be called Darier sarcoid. Lewandowsky says that the Darier sarcoid is part of the picture of erythema induratum.

DR. F. E. SENEAR: We have been seeing this patient at intervals for a period of about seven years with several types of tuberculids, among them typical erythema induratum. Some of the lesions now present on the buttocks and thighs are very deep, although those on the face and arms are more superficial. We

thought of sarcoid as a possibility, but believed that the diagnosis would have to be confirmed microscopically. We received the sections only this afternoon, and, as Dr. Becker said, there is nothing typical of sarcoid in them. We cannot tell anything about the type of inflammation. This case is an interesting example of the occurrence of various types of tuberculids in a person with pulmonary tuberculosis.

DR. THEODORE CORNBLEET: It is interesting to speculate on the possibility of these disseminated lesions being stimulated by the administration of potassium iodide for syphilis. Potassium iodide can light up a quiescent tuberculous focus, and it is possible that a stimulated tuberculous focus might be a factor in producing the tuberculids.

DR. F. E. SENEAR: One thing that made me hesitate about putting this case in the sarcoid group was the fact that the lesions in the submaxillary region are becoming inflammatory, suggesting that they may break down.

DR. RUBEN NOMLAND: I think that the condition is a Darier-Roussy sarcoid with erythema induratum, and that the microscopic picture is compatible with that diagnosis.

DR. CLARK W. FINNERUD: I wish to differ with Dr. Nomland in his remarks about the Darier-Roussy type of sarcoid. I do not know how any one could make a diagnosis of erythema induratum, and certainly not one of deep sarcoid from an examination of these sections.

TELANGIECTASIS (DUE TO ROENTGEN RAYS). Presented by DR. E. P. ZEISLER.

A woman, aged 35, a nurse, stated that she had worked as a technician in a roentgen department for seven years, doing chiefly diagnostic, fluoroscopic and deep therapy work. About two and one-half years before presentation the present condition developed.

Examination showed a well marked roentgen telangiectasis and some atrophy involving the extensor areas of the chest, neck, arms and cheeks. The condition of the face had improved somewhat since she had discontinued her occupation.

DISCUSSION

DR. J. H. MITCHELL: I asked the patient in detail about her work. She said that the current was generated in the building; it was very unstable, and it was necessary to go to and from the machine frequently.

SYPHILITIC SARCOID. Presented by DR. S. W. BECKER.

A woman, aged 47, was first seen in October, 1930, when she presented bluish, deep-seated nodules on the elbows and fingers, which she said had been present for twenty-five years. The Kolmer and Kahn reactions of the blood were strongly positive; the spinal fluid was normal.

Microscopic examination of a section showed sarcoid structure, and a therapeutic test with bismuth was followed by about 90 per cent improvement. Severe neuritis developed in the arm, requiring hospitalization, after which treatment was stopped (May 21, 1931). In September, 1931, the patient noted progression of the lesions, but had received no treatment since that time.

DISCUSSION

DR. E. P. ZEISLER: I always have been dubious about the coexistence of sarcoid and syphilis. I think that this patient has a tertiary nodular syphilid, with juxta-articular nodules.

DR. S. W. BECKER: When we first saw this patient, she had only the deep-seated nodules on the elbow and about the finger, which were clinically sarcoid, and this diagnosis was made. Then the blood test was positive. We next gave a therapeutic test with bismuth the result of which we thought convincing. We will now try to clear up the condition with bismuth and arsphenamine.

BOWEN'S DISEASE. Presented by DR. M. H. EBERT and DR. B. B. BEESON.

A man, aged 50, an Italian, presented a lesion of four years' duration on the inner aspect of the upper third of the right thigh. He stated that it started as a small papule, and that it gradually increased in size. There was no sensation, and it had never been treated. He said that he had not had syphilis, and the Wassermann reaction of the blood serum was negative. He gave a history of having had malaria twenty years prior to presentation.

On the right thigh was a roughly circular area a little larger than a silver dollar. The surface was dull red, somewhat elevated and granulomatous. In places it was eroded and crust-covered, and in other places it was covered with crust and scales. The margin was well defined and somewhat irregular in outline. There was moderate infiltration of the base.

A biopsy was taken from the margin. In the involved area were marked acanthosis and some parakeratotic scaling. The rete cells in this area varied markedly in size and shape. There was marked evidence of both mitotic and amitotic nuclear division. There were numerous multinucleate cells and large cells with condensed nuclei and a surrounding vacuole, "clumping of the nucleus." Dyskeratotic cells were being exfoliated in the stratum corneum. There was a round cell infiltration of the papillary and especially of the subpapillary layer of the corium.

DISCUSSION

DR. OLIVER S. ORMSBY: On account of the numerous conditions that have been classed as Bowen's disease on microscopic examination, I am pleased to see a patient who really shows the symptoms first described by Bowen. Although the maceration today hides them somewhat, the underlying nodules Bowen described are present, and I think that this case more nearly corresponds to the original description than any we have seen.

DR. CLARK W. FINNERUD: The degree of dyskeratosis and the other histologic features are so slight in the section presented as to cast doubt on the correctness of the diagnosis of Bowen's disease, although from a clinical standpoint apparently the condition is typical of that disorder.

DR. MICHAEL H. EBERT: I think that some of the factors described by Bowen are poorly shown, particularly the clumping of the nuclei, but I think that all the essential changes are present. There are the mitotic and the amitotic divisions and also some cells that I interpreted as having the clumped nuclei. The chromatin is condensed, and yet the cells are not separated from the surrounding cells. I think that all the histologic determinations and the clinical picture make the case one of Bowen's disease.

E. A. OLIVER, M.D., *Secretary*

Regular Meeting, April 20, 1932

MICHAEL H. EBERT, M.D., *President, in the Chair*

PEMPHIGUS VULGARIS (?) BEGINNING WITH ORAL LESIONS. Presented by DR. JAMES H. MITCHELL.

A man, aged 40, had a disorder of two and a half months' duration. The first lesions observed followed dental work on the lower molars; they were treated by the dentist as thrush, and later with neoarsphenamine by a physician as Vincent's angina. The Wassermann reaction was negative. No cutaneous lesions appeared during the first two months.

The patient was first seen on March 31, 1932, at which time there were erosions over the entire soft palate extending around the molars to the buccal

pouches. No cutaneous lesions were seen until April 6, when numerous bullae were found on the back, chest and shoulders. The patient's color was good.

Examination of the blood showed: leukocytes, 10,600; polymorphonuclears, 46 per cent; lymphocytes, 47 per cent; eosinophils, 2 per cent, basophils, 2 per cent, and myelocytes, 3 per cent. Urinalysis gave negative results. The temperature was normal.

The patient was given three injections of calcium gluconate, without effect. On April 6, when the cutaneous lesions were first found, the patient was given 2 Gm. of tryparsamide, followed by four more injections of calcium gluconate.

Dr. Pels reported that the phytopharmacologic test showed that the blood serum was 50 per cent toxic. There had been no apparent response to tryparsamide.

DISCUSSION

DR. J. H. MITCHELL: It is interesting to see a case in which the lesions began in the mouth. I am sure we all agree that the prognosis is unfavorable in all such cases. Recalling the experience of Dr. Ormsby and Dr. Grindon with tryparsamide, I was interested to know whether any of you had had any experience with that line of treatment. In this case, the patient has not responded to this treatment, and if you have any suggestions concerning therapy, I should like to have them. The man is rapidly becoming worse.

DR. OLIVER S. ORMSBY: The patient treated by us with tryparsamide, whose case was reported by Dr. Grindon, remained practically well for about three years; then a relapse occurred, and he died within three months in spite of the use of tryparsamide a second time.

DR. EDWARD A. OLIVER: Shortly after Dr. Grindon published his results we used tryparsamide here, with no noticeable improvement in about twelve cases. We also used the Davis treatment in a series of cases but finally resumed the use of solution of potassium arsenite and have obtained better results with that than with anything else.

PEMPHIGUS VULGARIS. Presented by DR. MAX S. WIEN.

S. G., a Jew, aged 60, had an eruption on the upper part of the trunk, face and scalp that had been present for nine weeks prior to presentation. The lesions began as small blisters that gradually enlarged, the overlying skin then rubbing off easily and leaving a denuded bleeding surface. Some of the lesions on the back and chest had coalesced to form large patches. Slight itching and burning were noted at the sites of the lesions. During the past three weeks, blisters had appeared in the mouth associated with sticking sensations, and in the past ten days the buccal lesions had been quite painful, making mastication difficult. The patient's general health had been good except for severe chronic constipation, for which he had been in the habit of taking Ex-Lax every night for the past six months, but had taken none since April 1, when he first came under Dr. Wien's observation. He said that he had not ingested any other drugs. During the past week he had felt considerably weaker and had been unable to work.

The upper part of the chest and back was the site of numerous discrete, coin-sized, bullous lesions, some of which had coalesced to form larger plaques; scattered discrete lesions were noted on the back, abdomen, face, scalp and extremities. Numerous collapsed vesicles and bullae were seen on the buccal surface of the cheeks and on the tongue, and crusted lesions were present about the lips. The lesions of the mouth were quite painful, although presenting no marked evidence of inflammation. New bullae had appeared on the posterior aspect of the left thigh during the last few days, some of which were on the normal skin.

A Pels test made on a specimen of blood obtained April 1 was reported by Dr. I. R. Pels as showing a reading of 55 per cent toxicity. Another specimen submitted to him on April 16 gave a reading of 55 per cent. Urinalysis gave negative results for albumin and sugar. The white blood count was 7,000, with

64 per cent polymorphonuclears; 20 per cent lymphocytes (of which 10 per cent were immature cells); 8 per cent eosinophils; 7 per cent monocytes, and 1 per cent basophils.

DISCUSSION

DR. MAX S. WIEN: During the past week this man has become quite toxic. The first week after all laxatives containing phenolphthalein were discontinued, there was marked improvement, but this was only temporary. Today the patient presents a fresh group of typical bullae of pemphigus on the thigh.

PITYRIASIS RUBRA PILARIS. Presented by DR. HARRY HUBER (by invitation).

A woman, aged 25, stated that she had been in good health until August of the past year. She had been on the stage as an expert fancy skater from the age of 17 to 22. For the past three years she had worked for the Swift Packing Company, in the department where she inspected the wrapping, packing and weighing of meat. She was sent in to have tests made to determine the possibility of a contact dermatitis. In August, 1931, she first noticed a few small rough patches on the skin of the hands. These patches rapidly spread to involve all of both hands. A short time later, similar patches appeared on the feet where the shoes rubbed and also on the skin of the knees where there was pressure when she crossed her legs. Soon afterward the same lesions appeared on other parts of the body.

When the patient was first seen by Dr. Huber about Dec. 1, 1931, most of the surface of the body was involved, but the skin on the inner aspects of both thighs and small patches on the back were apparently normal. Since then the condition had spread until almost no normal skin remained.

The patient's general health was good; she had lost no weight and had worked regularly. All tests for sensitization of the skin gave negative results.

Examination of the blood made on April 13, 1932, showed: hemoglobin, 55 per cent; leukocytes, 7,400, and erythrocytes, 4,400,000. A differential count revealed: neutrophils, 53 per cent; eosinophils, 5 per cent; small mononuclears, 34 per cent; large mononuclears, 7 per cent, and transitionals, 1 per cent. The basal metabolic rate was plus 3. Urinalysis showed no pathologic changes.

DISCUSSION

DR. UDO J. WILE: Two conditions suggested themselves to me. First, I thought that this condition might be some unusual form of congenital ichythosis, but when I examined the patient more carefully I rather leaned toward the second possibility, namely, that this is an unusual form of pityriasis rubra pilaris. There are no follicular lesions at this time, but there are marked hyperkeratosis of the palms and marked symmetrical distribution of the free areas of the skin. If there were a history of the usual course of pityriasis rubra pilaris, the present stage would correspond very well with one of the later phases of that disease.

DR. HARRY HUBER: I gave this patient small doses of thyroid about eight weeks ago; after about three weeks of such medication, there was no change but there was a progression of the lesions on the skin. I made measurements, and the lesions spread over the inner part of the thigh at the rate of about ½ inch (12 mm.) every ten days until the thigh was completely covered.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. F. E. SENEAR and DR. MAX S. WIEN.

E. W., a housewife, aged 46, had had an itching eruption in the vulvar area for eight years prior to presentation, for which she had received varied treatment, with considerable fractional roentgenotherapy, with only partial relief. During the past four years she had also had an eruption on the scalp and trunk of variable intensity, associated with moderate pruritus. Three years prior to presentation she first noted an eruption on the arms that had gradually increased in extent.

For the past five months there had been marked pruritus about the ears and in the aural canal, and itching of the left axilla had been present for one month.

The general health had been good, but there has been a loss of weight of 5 pounds (2.3 Kg.) during the past two weeks. For the past month there had been polyuria, nocturia, frequency and burning on urination, with exaggeration of the pruritus vulvae. She was constipated and used liquid petrolatum for relief.

The scalp was the site of a patchy, crusted and scaling eruption, with considerable pityriasis simplex capitis. The trunk was free from lesions. The perianal area was white and macerated; the adjacent portion of the buttocks was red and lichenified. Lichenification also was noted about the vulvar area and the adjacent groin and thigh. There was a mottled reddish-brown, macular eruption on the hands and forearms, with a tendency to fine scaling in some areas and an arciform patch on the left forearm that appeared to be slightly infiltrated. The epitrochlear glands were enlarged to the size of a cherry pit.

Examination of the blood showed: leukocytes, 9,000; polymorphonuclears, 50 per cent; large mononuclears, 3 per cent; lymphocytes, 35 per cent; eosinophils, 11 per cent, and basophils, 1 per cent. Urinalysis gave negative results for albumin and sugar.

Histologic examination showed the epidermis to be flattened and thin. The corium was edematous and in its upper part was filled by a dense infiltration of round cells which did not quite reach the epidermis. This same infiltrate extended deeply in the form of dense mantles about the vessels and sweat glands. The thin uppermost layer of the corium contained collagen and elastic fibers; the infiltrated area was almost entirely free from both, and the deep corium contained normal collagen fibers and a few curled elastic fibers.

DISCUSSION

DR. E. P. ZEISLER: About three years ago, when Professor Jadassohn was here, I presented this patient and made a diagnosis of acrodermatitis chronica atrophicans, with which he agreed. He said that they see these cases in his clinic so commonly that they do not show them any more. We have watched this patient for three years, and there has been no change so far as we can determine. In spite of the histologic observations, I think that the diagnosis is correct.

DR. H. E. MICHELSON: The histologic observations are those of acrodermatitis atrophicans in the infiltrative stage. There is often a great deal of discrepancy between the marked atrophic clinical observations and the amount of infiltrate. One patient that we had, who complained of a good deal of pain, was greatly relieved by diathermy.

DR. CLARK W. FINNERUD: I wish to state that Dr. Michelson made the diagnosis in this case from the section, before he saw the patient. I agree with the diagnosis of acrodermatitis chronica atrophicans, both clinically and histologically.

DR. MAX S. WIEN: At the time we presented this patient we did not know that Dr. Zeisler had shown her before. We also felt that we were dealing with acrodermatitis chronica atrophicans. In view of the presence of glandular enlargement, we felt that there might possibly be an underlying state of lymphoblastoma.

LUPUS PERNIO. Presented by DR. RUBEN NOMLAND.

The patient, who had been under the observation of Dr. John D. Koucky for about one year, was first seen by him after an illness of about one month which consisted of generalized aches and pains, mild indigestion and loss of weight. At that time examination gave essentially negative results, except for a striking cyanosis and puffiness of the hands and face. Examination of the blood showed: erythrocytes, 3,840,000, and leukocytes, 4,700. The blood pressure was 125 systolic and 90 diastolic. Urinalysis and the Wassermann test gave negative results. The patient was later seen by Dr. Koucky during an illness in which the temperature reached 103 F. The tonsils were removed because of the generalized aches and

pains. A check-up four months prior to presentation revealed that he had an afternoon temperature of 99 F. Symmetrical atrophy of the muscles of the forearms and hand was then obvious. The tendon reflexes were all present but diminished. No definite sensory disturbance was found, but it was believed that a multiple neuritis of undetermined origin might explain the findings.

In November, 1931, a nodule on the right forefinger softened, broke down and discharged for a short time, and then healed, leaving a small scar. There had been eight similar occurrences.

Examination at this time showed marked cyanosis and swelling of both feet and both hands. The fingers presented a fusiform, nodular, bottle-like swelling. In some places the swelling was quite soft. In several areas on the palms there were sharply marginated, bright red, marmorated spots. Several small scars were noted, especially on the forefingers. There was diffuse atrophy of the muscles of the hands and forearms. Movement of the joints was difficult. The nose was edematous but did not show much cyanosis. The right epitrochlear gland was the size of a small nut, and there were purplish infiltrated areas over both elbows.

DISCUSSION

DR. CLARK W. FINNERUD: I think that the diagnosis in this case could be settled by biopsy, but my clinical diagnosis is lupus pernio. I have seen one patient without involvement of the face and one with some facial involvement and with more involvement of the arms than was shown here. These cases were at one time considered to be sarcoid, but the Europeans have shown pretty definitely that they should be classed as lupus pernio.

DR. E. P. ZEISLER: I wish to suggest the possibility of syringomyelia in this case. The changes in the skin may be secondary to the muscular atrophy. I could see no clinical evidence of lupus pernio, unless it can be found histologically.

DR. MICHAEL H. EBERT: I saw this patient for the first time just before the meeting and was impressed by the spasm in the peripheral arterioles in the area. If the man held his arm above the head it blanched immediately, and if he returned it to the level of the heart it took considerably more than a minute for it to return to normal hue. There is some discussion as to the difference between chilblain lupus and the so-called sarcoid lupus, but I think this case resembles the chilblain more than the sarcoid type.

DR. RUBEN NOMLAND: I should think the presence of lesions on the nose and ears would almost rule out the question of syringomyelia, but we will rule it out definitely. The patient has had an examination by a good surgeon, who said he found no sensory changes of any moment. It also seems rather strange for syringomyelia to develop suddenly in a patient of this age. I will see that a neurologic examination is made and, if possible, get a section for examination.

LUPUS VULGARIS. Presented by DR. F. E. SENEAR and DR. H. RATTNER.

J. K., aged 19, from the department of dermatology, University of Illinois, was seen five weeks prior to presentation with a patch of dermatitis of seven years' duration covering most of the dorsal surface of the right hand. The outline of the lesion was polycyclic; the border was made up of infiltrated, nodular and ulcerated foci, which on diascopic pressure revealed typical apple-jelly nodules, and the central portion consisted of thin pinkish scar tissue. Biopsy confirmed the diagnosis of lupus vulgaris. On the right forearm, there was an atrophic scar, the result of a similar lesion three years previously. At the onset seven years previously, he was confined to bed for eight months with pulmonary disease.

Treatment had consisted of ultraviolet rays and about thirty intravenous injections, the last one of which had been given six months before presentation. For the past four weeks he had been on a modified Gerson salt-free diet, and a proprietary calcium preparation during the past week. In addition, he was taking cod liver oil. Locally he had used only petrolatum.

The patient was presented to demonstrate the decided improvement in the condition, and a photograph showed the condition before the diet was instituted.

DISCUSSION

DR. MAX S. WIEN: I wish to call to your attention a case that was presented by Dr. Stillians in which the clinical picture was similar to this in many respects, although in that case the condition was inoculation tuberculosis in a man who was weighing sputum in a sanatorium for tuberculosis.

DR. H. RATTNER: We have another patient with lupus vulgaris who started treatment at the same time, but there has been no change in the condition, and a patient with folliclis who also started the treatment at the same time has not improved.

HYDROA VACCINIFORME. Presented by DR. A. W. STILLIANS.

An American woman, aged 24, a stenographer, had complained of pelvic disturbance with fever and pain for two weeks and great nervousness and neuritis last summer, and while she was in the hospital because of this illness she had colitis and jaundice. During convalescence she took sun baths, and her face became red and swollen. Following this blisters appeared on the face and then on the hands.

When the patient was first seen in the clinic, on April 6, 1932, there were no fresh lesions on the face, but a vesicle about 0.5 cm. in length was noted on the back of the left index finger. The contents of this vesicle were clear; they showed no bacteria and no eosinophils by direct smear, and there was no growth on culture medium.

Examination of the blood showed: erythrocytes, 4,720,000; leukocytes, 7,000, and hemoglobin, 85 per cent. A differential count showed: lymphocytes, 39 per cent, and polymorphonuclear neutrophils, 61 per cent.

Many depressed scars were noted on the face, the largest being about 1 cm. in diameter; there were several scars on the backs of the hands and one or two crusted lesions in addition to the vesicle described. A crusted erosion on the front of the neck was noted, which the patient claimed was due to her "nervous picking." On April 13, the vesicle had subsided, leaving a crust, but another had appeared. The lesion caused by picking had healed without scarring.

The patient stated that she had taken some medicine to induce sleep during her stay in the hospital and for two weeks afterward, but that she had taken none since.

There was no urinary abnormality, and no hematoporphyrin.

The patient had been wearing gloves during the day for several weeks, with no apparent effect on the disorder. The vesicles appeared as a rule early in the morning.

DISCUSSION

DR. O. H. FOERSTER: I am inclined to think that this case is one of hydroa vacciniforme. In view of the preceding hepatobiliary disorder, an investigation may show the presence of hematoporphyrin as an agent possibly responsible for the sensitization. This may link up the cutaneous picture with the condition present immediately preceding the onset.

DR. J. H. MITCHELL: I wish to know whether there is any knowledge of acriflavine having been used in this case. That drug will sensitize a patient to light, and the French investigators have found that in many cases of sensitization to light, acriflavine had been used in the treatment of gonorrhea. They have found that one of the resorcins will protect the patient from sensitization and have given injections of the two drugs in the same solution.

MACULAR ATROPHY; LUPUS ERYTHEMATOSUS. Presented by DR. RUBEN NOMLAND.

A woman, aged 39, first noted a bald, scarred spot on her scalp ten years before presentation, which had gradually increased in size. At that time white spots appeared on the shoulders and the clavicular area, and six years later

lesions appeared on the face. At no time was there evidence of an inflammatory reaction or redness in these areas; however, the number of spots had slowly increased.

Examination showed an irregular, almost palm-sized area of scarring alopecia on the vertex. On the right side of the face was a dollar-sized area of scaling erythema. Over both shoulders were numerous white, atrophic macules, from 1 to 2 cm. in diameter, some of them showing a definite ballooning outward. Over both clavicles there were areas of atrophy about 4 cm. in diameter. The finger could be pushed into some of the atrophic spots, as into a hernial orifice.

Biopsy revealed atrophy of the epidermis, loss of rete pegs and absence of pigment in the basal cell layer. Elastic tissue stains revealed a complete absence of elastic tissue in the upper and middle of the cutis. There was thickening of fibrils, condensation and other changes of the elastica in the deeper layer of the cutis. The elastica at the edge was normal, and there was no inflammatory reaction.

DISCUSSION

DR. HARRY R. FOERSTER: I agree with the diagnosis presented and believe that the two conditions are independent of one another.

DR. RUBEN NOMLAND: I think that the two conditions are independent, but I suppose that one would have to assume that whatever caused the lupus erythematosus on the face and scalp has caused a disturbance of the elastic tissue so as to give rise to the atrophic lesions on the body. I think that the case comes in the group of secondary macular atrophies.

CUTANEOUS TUBERCULOSIS IN A NEGRESS. Presented by DR. RUBEN NOMLAND and DR. L. A. BRUNSTING.

A Negress in the early thirties presented subcutaneous nodular lesions of the arms of three years' duration and smaller ones of the nose and lips, which had been present for three months. Within the three months prior to presentation, several of the lesions had eroded the overlying skin. The condition began as deep, indolent small swellings beneath the skin on the extensor aspect of the right arm, and from time to time new lesions had appeared.

Examination revealed about a dozen small, nut-sized, firm subcutaneous red swellings on the extensor and flexor surfaces of both arms. Five lesions had eroded the overlying skin and showed crusting, but there was no ulceration similar to that of erythema induratum. On the face were three pea-sized lesions, two on the lips and one on the nose.

Biopsy of a subcutaneous nodule revealed a marked inflammatory infiltrate of the lower and fat layers of the cutis. It consisted of islands of infiltrate separated by connected tissue septums. The islands were made up almost exclusively of epithelioid cells, but an occasional giant cell was seen at the center and a few lymphocytes at the periphery. Several islands showed microscopic necrosis at the center.

DISCUSSION

DR. PAUL A. O'LEARY: I saw this woman some time ago, and made a diagnosis of tuberculosis cutis indurativa. The histopathologic section confirmed this impression. I realize that the term, tuberculosis cutis indurativa, is not acceptable to all, but I have used it in order to avoid any quibbling as to whether this is an ulcerative sarcoid or a nodular tuberculid of the hypoderm. To me the essential feature is the fact that it is a hematogenously disseminated tuberculosis of the skin.

DR. H. E. MICHELSON: I agree with Dr. O'Leary's diagnosis, and I like to retain specific terms in a discussion of tuberculosis of the skin. I think that the names have significance, and often imply the clinical course. I think that in this particular patient the diagnosis should be sarcoid of the subcutaneous type.

DR. MAX S. WIEN: This patient was seen in Dr. Senear's clinic several weeks ago, and the clinical impression was that of cutaneous tuberculosis. Biopsy was performed and the diagnosis was cutaneous tuberculosis.

DR. RUBEN NOMLAND: I believe that this type of disorder is in the subgroup of sarcoid Darier, which he calls the disseminated nodular sarcoid. According to Darier it is permissible for these lesions to erode the overlying skin occasionally. The essential pathologic condition fulfils Darier's description and is a *"Wucheratrophie."* Dr. Brunsting sent me the following comment on the case, which is practically the same as Dr. O'Leary's: "I should prefer to classify this case as tuberculosis cutis indurativa of the erythema induratum type. Clinically the lesions have actually ulcerated. Microscopically, there are foci of caseation necrosis. Subclassification on morphologic grounds alone tends to be confusing."

ULCER OF THE CHEST: TERTIARY SYPHILIS? NONSYPHILITIC ULCERATION? Presented by DR. MAX S. WIEN and DR. THEODORE CORNBLEET.

Mrs. L. T., aged 45, was presented at the December, 1931, meeting (ARCH. DERMAT. & SYPH. **26**:375 [Aug.] 1932) for diagnosis after having been in the dermatologic service of the Cook County Hospital since Oct. 5, 1931, where she received mixed antisyphilitic treatment for a period of about ten weeks. There was partial involution of the ulceration, and the treatment was continued until Jan. 5, 1932, when all antisyphilitic treatment was discontinued. The ulcer remained about the same as at the time of the December meeting. Because of the slowness of response of the remaining area of ulceration, it was deemed advisable to prepare the patient for skin-grafting in this area. She was given a tonic, with hemoglycogen given by mouth because of severe secondary anemia, and the ulcer was dressed daily with surgical solution of chlorinated soda (Dakin's solution) and borated petrolatum. On this treatment there was such a rapid involution of the ulceration that skin grafting was not necessary. The size of the ulcer had decreased to 8.5 by 3.5 cm. in its greatest dimension as presented at this time.

DISCUSSION

DR. MICHAEL H. EBERT: I have been greatly interested in this case. When the patient was first seen there was some difference of opinion concerning the diagnosis, some thinking it was a syphilitic process and some favoring the diagnosis of pyogenic infection of the skin. I noticed that the woman was markedly anemic at that time, and that fact fitted in with my idea of the condition, which I believe to be of pyogenic rather than of syphilitic origin. Treatment with liver was given, and the lesion was dressed daily with surgical solution of chlorinated soda. The patient has improved markedly, as you observed, and I think that this is due to the improvement in the hemoglobin, and perhaps also to the change in the technic of dressing the ulcer.

A CASE FOR DIAGNOSIS. PSORIASIS? TRICHOPHYTOSIS? Presented by DR. MICHAEL H. EBERT.

A girl, aged 3 years, presents an eruption on the buttocks, elbows, knees and face, which was first noted two months ago and has spread gradually. There is no sensation, and the child appears to be well.

On the areas designated were seen several discrete, scattered papules varying in size from that of a matchhead to that of a pea. They were dull red and firm, and some were capped with a silvery scale.

A section taken for biopsy from one of the more recent lesions showed marked acanthosis of two or three of the rete pegs, which were elongated and broadened in a bizarre fashion. The cells were markedly edematous, and the basal layer could not be made out. There was a perivascular infiltrate of round cells in the papillae, with some polymorphonuclear neutrophil leukocytes, which in one place had migrated into the rete to form a small vesicle. There was a central cone-shaped scale.

DISCUSSION

DR. H. E. MICHELSON: The diagnosis that seems the most likely to me is psoriasis. One sees patients in the incipient stage of psoriasis so seldom that one does not realize how atypical the condition may be at the onset. We depend on the clinical diagnosis, the microscopic observations and the response to the Goeckermann treatment in diagnosing cases in which psoriasis was suspected.

DR. CLARK W. FINNERUD: Although I could not make a positive diagnosis, I thought that some of the lesions were definitely nodular and rather firm. I feel that I could not associate the lesions with psoriasis. They are psoriasiform lesions, but the closest diagnosis I could make was that the condition was an unusual form of tuberculid.

DR. UDO J. WILE: I had much the same idea that Dr. Michelson had, but thought that we could not rule out some type of psoriasiform trichophytid. The lesions greatly resembled those of systemic trichophytosis.

DR. MICHAEL H. EBERT: I think that Dr. Wile's suggestion is very good. Two weeks before the appearance of this eruption, the child had what was called a boil, but the lesion described did not seem to be a boil and it might well have been a trichophyton infection, which was followed by this eruption. At first sight I thought only of the diagnosis of psoriasis or tuberculid, and was rather in favor of a diagnosis of tuberculid because the lesion was inclined to have a central firmly attached scale rather than the type seen in psoriasis.

SCROFULODERM: ERYTHEMA INDURATUM? Presented by DR. MAX S. WIEN and DR. THEODORE CORNBLEET.

E. G., a housewife, aged 43, had been in the Cook County Hospital since March 15, 1932, with an eruption on the right leg and thigh, about the knee, which she stated had been present for the past five years. She first noted some discharging "sores" above the right knee that healed slowly, leaving the puckered scars now present at their site. About four months ago new spots appeared on the side of the thigh just above the right knee, and a discharge from a fresh sore above the knee was noted. The general health had been excellent.

The patient has three children living and well. Her first pregnancy terminated in a miscarriage and the next two pregnancies in stillbirths, and the next infant died at 6 weeks of age. She said that she had no knowledge of having had a syphilitic infection and had never received any treatment for syphilis.

Physical and roentgen examinations revealed no evidence of pulmonary tuberculosis, and a roentgenogram of the region of the right knee revealed no pathologic condition of the bones or joints. The Wassermann reaction of the blood was 1 plus.

The right suprapatellar area was the site of blue to brown puckered scars with a depigmented scar the size of a split-pea over the outer aspect of the right patella, as if a necrotic plug was extruded. The adjacent outer aspect of the right thigh and leg was the site of purple to dull reddish-brown areas of discoloration which overlaid indurated irregular plaques and subcutaneous nodules. Some of the nodules seemed to extend in a deep-seated chain along the outer aspect of the right leg adjacent to the patellar region.

Biopsy performed by Dr. Jaffé revealed tuberculous granulation tissue with caseation necrosis in the hypoderm.

DISCUSSION

DR. MICHAEL H. EBERT: I have an opinion on this case that differs a little from that of the presenters. I feel that while there is a possibility that the lesions over the knee might be interpreted as tuberculosis, the deep nodules that occur on the surface of the thigh are identical with those in the case shown at Rush Medical College, which proved to be syphilis. A Wassermann reaction of 1 plus does not mean much here, and the histopathologic diagnosis might be either syphilis

or tuberculosis. The patient has improved under treatment with mercury rubs. I believe that it is a case of nodular syphilis.

DR. MAX S. WIEN: There is a definite history in this case of miscarriages in the third, fourth and fifth pregnancies, which would fit with an underlying syphilis. The lesions with bluish discoloration overlying a plaquelike induration, in association with lesions with puckered scars, made us feel that we were dealing with a manifestation of cutaneous tuberculosis. The woman has been in bed under a hospital regimen and has been given mercurials and potassium iodide. While there is some improvement, I do not think there is enough to say that we are getting the specific response of syphilis. It is difficult to make a decision on the histologic section, but I think that we should look at it in the light of clinical findings, which seem to indicate tuberculosis.

A CASE FOR DIAGNOSIS. Presented by DR. F. E. SENEAR and DR. L. F. WEBER.

A. E., a boy, aged 5, was well until three and a half years before presentation, when he first started to complain of aching bones and joints and the inability to use his extremities fully. He had a sore throat and a temperature of 103 F. The skin about the finger-nails was inflamed and puffy, and about a week later, erythematous plaques were noticed on the anterior surface of the right thigh and knee. When the patient was seen for the first time in November, 1930, he complained of pain in the left arm and leg, and purplish-red plaques were present over the left elbow and the side of the left knee. Such attacks would last for several weeks, disappearing spontaneously only to recur after a varied period of time, the lesions appearing markedly erythematous during the febrile state and brownish-yellow while the patient was afebrile. In addition, he presented an erythema about the eyes and on the forehead and a macular erythema on the body. Physical examination gave essentially negative results, except for the cutaneous and arthritic observations; a positive Mantoux and a negative Pirquet reaction were obtained, and a diagnosis of acute rheumatic fever with erythema multiforme was made. In the past two years, the joints had been painful and swollen, and the skin overlying them had shown a macular eruption.

Physical examination revealed a poorly nourished child, not acutely ill, with a temperature of 99 F. There was an inability to flex the left arm and knee completely. The mouth could not be widely opened. The lungs were normal. A systolic murmur was present, but there was no thrill. Over the knees, elbows and other joints the skin was mildly erythematous, with some bluish mottling. Over the forearms and dorsa of the hands a faint erythematous macular eruption was present, whereas over the knuckles the skin was more vividly reddened, with thin scarring over the central portions. There was a shallow ulcer over the distal end of the third right metacarpus. The upper eyelids were bluish red, with fine telangiectatic vessels coursing over them. This erythema extended to the forehead and cheeks as more of a bluish discoloration.

Roentgenograms revealed no pathologic process in the bones or joints. Examination of the blood showed: erythrocytes 4,600,000, and leukocytes, 9,250. The reaction to the Pirquet test was negative in forty-eight hours. Roentgenograms of the lungs showed increased hilar shadows and localized densities. Linear markings were exaggerated, and the findings were consistent with old hilar tuberculosis.

DISCUSSION

DR. H. R. FOERSTER: This boy appears quite ill; he has a chronic cervical adenitis, and he has recently had an erythema nodosum. I believe that these may be manifestations of a systemic tuberculosis. Therefore, I believe that the telangiectatic erythema on the eyelids, on the extensor surfaces of the elbows and on the fingers, may be considered to be a tuberculid reaction.

DR. PAUL A. O'LEARY: I agree with Dr. Harry Foerster that this child presents a cutaneous manifestation of a systemic disease. However, it is my impression that the systemic involvement is probably of streptococcic rather than

of tuberculous origin. One sees not infrequently a picture similar to this in patients with malignant endocarditis, and if it has not already been done, I believe that it would be well to have the child examined from this angle and to have a culture made of the blood as well.

DR. F. E. SENEAR: I saw this boy for only a moment or two a couple of days ago and am grateful for Dr. O'Leary's suggestion.

DR. MAX S. WIEN: In the general examination the heart was reported to be regular; there was a sinus arrhythmia but no definite heart murmurs.

ERYTHEMA MULTIFORME COMPLEX. Presented by DR. MICHAEL H. EBERT.

G. D., a woman, aged 54, stated that a few months prior to presentation she had undergone hemorrhoidectomy and that in February, 1932, she had returned to the hospital with prolapse of the rectum, which was cauterized. She returned in March complaining of diarrhea, for which she had been given opium and enemas of potassium permanganate. At the age of 4 years she had received an injury of the head and since then had been mentally below par and very nervous and had tremors of the head and body. A roentgenogram of the skull was negative.

On April 10, a swelling of the upper lips with a small pustule on the right outer third developed. This lesion increased in size to 1 by 1 cm. The swollen lips were treated with hot dressings and seemed to improve. The patient also had a sore throat, and the temperature varied from 99 to 101 F. She was placed on salicylates and given a gargle and soon improved.

On April 16, an erythematous, nodular eruption developed over the forearms and less marked lesions, over the legs. These areas were tender, but there was no pruritus. There was also inflammatory edema of the eyelids, with marked conjunctivitis and lacrimation. The members of the ophthalmologic department made a diagnosis of inflammation of both lacrimal glands and conjunctivitis.

Examination of the blood showed 20,300 leukocytes. The differential count showed: polymorphonuclears, 77 per cent; lymphocytes, 18 per cent, and monocytes, 5 per cent. The blood pressure was 134 systolic and 102 diastolic.

Urinalysis revealed a trace of albumin and an occasional pus cell.

Culture of the blood revealed no growth.

DISCUSSION

DR. MAX S. WIEN: The condition in this patient represents that in a group we have seen here, one of whom was shown several months ago with a gangrenous lesion of the nose. We have more recently had another case in a patient in whom in association with erythema multiforme panophthalmitis and fatal toxemia developed. At the Cook County Hospital we see this profound type of erythema multiforme toxemia that goes on to death in some cases.

DR. MICHAEL H. EBERT: The reason why I presented the patient was because she shows this peculiar type of the disease.

FURTHER REPORT ON A CASE OF "MULTIPLE BENIGN CYSTIC EPITHELIOMA" SHOWN AT THE FEBRUARY, 1932 MEETING. Presented by DR. E. A. OLIVER and DR. RUBEN NOMLAND.

Biopsy performed on the large nodule on the face measuring 2.5 by 1.5 cm. showed large areas of cellular infiltrate. The cells are of the basal cell type and are placed in a hyaline matrix of varying amount. There is practically no cyst formation. The microscopic picture is indistinguishable from that of cylindroma of the scalp. Of interest in this connection is a recent report of typical cylindroma, microscopically proved, occurring on the face and scalp with most of the lesions on the nasolabial folds and elsewhere on the face (Nicolas, J.; Massia, G., and Lebeuf, F.: *Bull. Soc. franç. de dermat. et syph.* [*Réunion dermat.*] **39**:10 [Jan.] 1932).

NEW YORK ACADEMY OF MEDICINE, SECTION OF DERMATOLOGY AND SYPHILIS

LEO SPIEGEL, M.D., *Secretary*

Regular Meeting, April 5, 1932

JOSEPH J. ELLER, M.D., *Chairman, Presiding*

A CASE FOR DIAGNOSIS (GRANULOMA INGUINALE?). Presented by DR. MARION B. SULZBERGER.

M. S., a white man, aged 36, presented himself at the skin clinic of the New York Post-Graduate Hospital on Oct. 20, 1931, complaining of an eruption on the penis which had begun three months before as a sharply defined, pea-sized superficial ulcer behind the corona. There was some itching. The patient had been treated with roentgen rays, local antiseptics, soothing agents, etc., without improvement. The general examination gave negative results. The lesions had spread and presented sharply demarcated, slightly elevated, circinate plaques that showed marked oozing. There were two such plaques on the dorsum of the glans penis. The borders of the lesions were sharply outlined against the normal skin. They were dusky red, and one lesion was slightly darker at the periphery than in the central portion. The plaques were soft and elastic. The two large lesions were of irregular contour, and were separated by normal skin; one covered an area about the size of a fifty cent piece, while the other was larger than a silver dollar. When wiped dry, the surface would begin to exude fine droplets of serous fluid almost immediately. There were a small lentil-sized, reddish papule on the frenum and slight redness at the meatus. The clinical appearance was similar to that of the precancerosis described by Queyrat under the name erythroplasie du gland (*Bull. Soc. franç. de dermat. et syph.* **22**:378 [Nov.] 1911). On repeated and insistent questioning, the patient said that he had not ingested drugs of any kind. There was no adenopathy. The dark-field examination and the Wassermann and Kline tests gave negative results. Biopsy had been refused by the patient until the time of presentation.

NOTE.—A piece of tissue was obtained and studied subsequent to the presentation of the patient. The condition proved to be granuloma inguinale.

DISCUSSION

DR. SIGMUND POLLITZER: At first glance, the case would suggest a balanitis, but the absence of ulceration or even of evidence of acute inflammation would rule out that diagnosis. The serpiginous outline and the superficial hardness and dryness would suggest epithelioma. A diagnosis should be easily established by biopsy.

DR. LOUIS CHARGIN: On clinical grounds epithelioma should be ruled out, especially because there are two distinct and separate lesions. A diagnosis that should be taken into consideration is dermatitis artificialis. I know of a similar case in which the condition was finally proved to be due to a local irritant.

DR. HERMAN GOODMAN: Is there not a possibility that the treatment has caused a change in the lesion? The radiation therapy may have influenced the primary lesions to assume the appearance now seen.

DR. MARION B. SULZBERGER: I cannot say anything about this case, except that it is a case for diagnosis. The patient now says that he will come in for biopsy, which I have been urging for seven months. The lesion has changed during its course, but I do not think that this could be due to therapy. He was given the mildest sort of therapy for several weeks. The lesion has grown from one small papule to the present circinate lesions. One of the remarkable aspects of the case is that as soon as the surface is dried off, it becomes moist almost immediately.

EPITHELIOMA (MULTICENTRIC BASAL CELL). Presented by DR. ISIDORE ROSEN.

W. L., a man, aged 54, born in the United States, a delivery man, presented himself at the skin clinic of the Mount Sinai Hospital on March 8, 1932, showing an extensive eruption on the back and the left forearm, typical in appearance of a nodular serpiginous syphilid, which, he stated, had been present for three years. In addition, on the small of the back was an oval patch, about 3 inches (7.6 cm.) in circumference, purplish-red, sharply defined and with a slightly infiltrated border, which, he said, had been present for six years. In the center of this lesion was a red, elevated, papillomatous, fungating tumor about 1 inch (2.5 cm.) in diameter.

The Wassermann reaction of the blood was 4 plus. The pupils were sluggish to light and in accommodation. The patient also had a slight paralysis of the right side of the face. He had never been treated for syphilis, and he said that he had no knowledge of a primary and a secondary eruption.

A section removed from the syphilid taken for biopsy, showed characteristic changes in the midlayer of the cutis consisting of infiltration made up of lymphocytes, a few epithelioid cells, plasma cells and a few scattered giant cells.

A biopsy specimen from the edge of the large lesion on the back showed a picture like that seen in multicentric basal cell epithelioma and a specimen from the center of this lesion showed a nondescript picture of chronic inflammatory change. No epithelioma was seen there.

Dr. Klemperer did not believe that the diagnosis of multicentric basal cell carcinoma should be made, but that lesions having the clinical characteristics described, plus such pathologic changes, were really a congenital malformation.

DISCUSSION

DR. WALTER JAMES HIGHMAN: With regard to Dr. Klemperer's report, the question of histology from the purely pathologic point of view is perhaps difficult for dermatologists to appreciate. No one's opinion on this kind of a question can possibly be superior to Dr. Klemperer's, and we shall have to accept his interpretation. What the case looks like clinically, to me, I will not state. Obviously, it looks malignant.

DR. PAUL GROSS: The lesion is characteristic of superficial epithelioma, and the histologic report of multicentric epithelioma is in full accord with the clinical picture. The suggestion that multicentric epithelioma is of nevoid origin does not alter the diagnosis; this is only the point of view that was expressed by Fuchs of Vienna in his paper dealing with what he called carcinoid.

DR. OSCAR LEVIN: When I first saw the patient at Mount Sinai Hospital, he showed characteristic noduloserpiginous areas of syphilis. On the back, there was one large, red, moist, fungoid mass in the center of a large area affected by the syphilitic eruption that showed no evidences of basal cell epithelioma. I regard this case as presenting a very malignant form of epithelioma of the skin.

A CASE FOR DIAGNOSIS (PARAPSORIASIS?). Presented by DR. FRED WISE.

J. G., a man, aged 63, married, a Rumanian, a tinsmith, was first seen at the clinic of the New York Post-Graduate Hospital on Aug. 4, 1927, complaining of dizziness, nervousness, loss of appetite and difficulty in walking. He said that he had no knowledge of any genital sore or eruption, but he gave a history of gonorrhea forty years before.

The patient had a wife, five sons and one daughter, all of whom were alive and well. His wife had had three miscarriages.

Except for a suggestion of sluggishness in the reaction of the pupils to light and loss of the knee jerks, the physical examination gave negative results. The Wassermann test was 4 plus. The patient received antisyphilitic treatment, consisting of arsphenamine, neoarsphenamine and bismuth, until Aug. 30, 1929, when he discontinued treatment. The Wassermann reaction of the blood was then still strongly positive.

He returned to the hospital on Jan. 30, 1932, with the eruption as presented, which had appeared about three months previously as a small red spot on the left flank. He had applied iodine twice, but the eruption spread gradually across the chest and to the other side. He was treated with roentgen rays, one-fourth unfiltered skin unit (approximately 70 roentgens) on February 20 and 27 and March 5.

The patient presented an eruption on the anterior portion of the midabdominal area, consisting chiefly of lichenoid papules, varying in size from that of a pinhead to that of a split pea, some being isolated, others confluent. Some of the lesions had a tendency toward gyrate formation, showing elevated edges and sloping toward the interior of the plaque. In the midst of these crops of papules were many faintly pigmented yellowish macules, resembling the pigment following and accompanying lichen planus.

The biopsy report was that of parapsoriasis lichenoides et varioliformis. The report was rendered by Dr. Satenstein.

DISCUSSION

DR. LOUIS CHARGIN: I am unable to offer a diagnosis, but I do not think that the condition is pityriasis lichenoides et varioliformis. Clinically, there is nothing suggestive of this disease.

DR. SIGMUND POLLITZER: I have no diagnosis to offer. With regard to the histologic report, the histologic diagnosis is said to indicate some form of parapsoriasis. In my opinion, there is no more difficult histologic picture to recognize than that. I would never make a diagnosis of parapsoriasis on the histologic report. At best, one may say of any case that the histology accords with a diagnosis of parapsoriasis.

DR. HERMAN GOODMAN: On the basis of my short examination of the lesions on the anterior surface of the trunk, I propose the possibility of urticaria pigmentosa acquisita. The lesions seem fleshy, and they are pigmented.

LINEAR ECZEMA AND ALOPECIA AREATA. Presented by DR. HERMAN A. GOODMAN.

The patient presented small scaling papules, some confluent, with a linear arrangement on both sides of the neck and extending over the shoulder down the left arm. There was a patch in the middle of the back and on the left side of the forehead. There were three small patches of hair loss in the occipital region. These areas were pinkish-brown and showed broken stumps of hairs. They were not noticed by the mother, but were discovered in the clinic three weeks prior to presentation.

The report on the biopsy was that the condition was eczema.

DISCUSSION

DR. CHARLES WOLF: The linear configuration is quite unusual for eczema. The presence of alopecia of the scalp and a bilateral follicular papular eruption on the chest and also a papular patch in the middle of the back would lead one to suspect that the child may have tinea and dermatophytid.

DR. ADOLPH ROSTENBERG: I favor a diagnosis of linear nevus. I remember a similar case in which treatment for eczema was of no avail, and in which biopsy showed the condition to be a nevus. I think that this case is very much like the one quoted.

DR. RAY H. RULISON: I had very little opportunity to examine the patient, but the condition impresses me as a linear nevus.

DR. SIGMUND POLLITZER: The diagnosis of linear nevus seems logical at first glance, but the lesions appeared only a few weeks or months before presentation. While that fact does not absolutely rule out linear nevus, it certainly casts a little doubt on such a diagnosis. This condition should have developed earlier. More-

over, one patch on the left side of the neck has appeared in the last week or two The word "eczema" certainly does not apply to this condition.

DR. WALTER JAMES HIGHMAN: So many opinions have been offered that the great variety of possibilities in this case are illustrated. I suggest that the condition is an incipient form of some disease and that we do not now know what it may prove to be at a later date. It is reported histologically as eczema. Evidently the condition is in the stage of evolution. We are caught short in that we do not know anything about disease in its incipiency, and this is an incipient picture. It will be necessary to await further developments.

DR. HERMAN GOLDENBERG: It has been stated by the mother that the child has itching. The eruption impresses me, not as a unilateral nevus, but as a linear dermatosis of lichen planus type.

DR. HERMAN GOODMAN: The first impression is that the condition is a linear nevus or linear lichen planus. Yet, the lesions are not limited to one side of the body. Those on the right side of the neck are not as linear in arrangement. On clinical examination, the lesions appear to be papules. They do not have the flat top or the umbilication of lichen planus papules. There is no pigmentation. The histologic examination disclosed an obvious vesicle. There was edema of the prickle cell layer, and the corneum was thick. The papillary bodies were edematous, and the blood vessels were widened. This is the picture one associates with dermatitis or eczema.

There was nothing suggestive of lichen planus or of nevus in the slide. The clinical entity of linear dermatitis or linear eczema has been established. Of five patients with similar conditions whom I have presented recently before this Section, four had clinical and histopathologic linear lichen planus and one linear eczema. This makes the second case I have seen. The alopecia was studied, and the hairs were found free from fungi. The intradermal injection of trichophytin, 1:20, gave no reaction.

ALOPECIA PARVIMACULATA. Presented by DR. PAUL GROSS.

M. W., a girl, aged 8, born in the United States, had had a condition for four months which began as a round area of alopecia over the vertex. The mother had noticed an area of redness and falling out of the hair. She applied some ointments given by a druggist. Within a week the condition had spread over almost the entire scalp. Then she went to a clinic and was advised to have the hair cut. Until recently, the condition had been treated with salves.

Throughout the entire scalp, especially over the vertex and occiput, were numerous areas of incomplete alopecia and slight scaliness. Surrounding this area were hard, dime-sized spots of baldness. The skin appeared smooth. There was apparently atrophy of the follicles, and in the center of many of the lesions was a red macule. The cervical glands were enlarged. With the use of Wood's light, only fluorescence of the scales throughout the scalp was found but no fluorescence of the hair.

Examination of numerous hairs and scales for tinea gave negative results.

The cause of this peculiar alopecia was so far undetermined. In this case, there was a possibility of a previous microsporon infection followed by alopecia parvimaculata. The redness and scaling were due to exposure to ultraviolet rays.

DISCUSSION

DR. OSCAR LEVIN: The case is probably one of fungus infection. The scalp presents large areas of alopecia that are covered with thick, dirty, grayish-white scales, which are firmly adherent. In view of the character of this scaling and alopecia with scarred areas, I would regard tinea as the most probable diagnosis.

DR. PAUL GROSS: The picture of the condition is considerably changed by a second degree reaction to ultraviolet rays.

DR. E. MUSKATBLIT: Alopecia is undoubtedly present, but I believe it is of secondary origin. There is a definite inflammatory process which attacks the hair follicles and is followed by atrophic changes and falling out of hairs. I suggest a diagnosis of folliculitis decalvans.

However, some foci show the presence of small broken stumps of hairs, such as those seen in ringworm cases. Only microscopic examination and cultures can show whether fungi are present. I do not think that favus will produce many small foci on the scalp; it usually causes a few larger foci. In Russia, I saw cases resembling this one due to Trichophyton violaceum. Castellani described a particular fungus—Trichophyton decalvans—which also causes lesions with falling out of hairs.

DR. PAUL BECHET: Despite the repeated negative results of the examinations for tinea, I believe that the patient presents the usual picture of tinea tonsurans, complicated by a secondary infection, causing multiple abscesses which have now healed, leaving the typical scarring usually resulting from such a process.

DR. GEORGE M. LEWIS: The commonest cause of alopecia in children is some form of fungus infection. This case corresponds in some degree to the case I presented at the last meeting. The absence of fluorescence under Wood's light and the failure to demonstrate fungi are in favor of an ectothrix infection rather than the customary microsporon fungus. Spontaneous resolution in microsporon infections, however, occasionally occurs, and this may account for the negative findings.

DR. PAUL GROSS: If I had seen this patient a few months ago, I, too, would have made the diagnosis of folliculitis decalvans. After reading the article by Werther, I could not fail to see the similarity of this case to those described by him. The interpretation of the alopecia is as follows: As can be gathered from the mother's history, the condition began with circumscribed, scaly lesions on the vertex; then suddenly an acute inflammatory condition set in, which resulted in loss of hair, as presented now. In other words, the child had a superficial tinea infection, changing to a deeper infection, with the development of an allergic reaction and a trichophytid localized to the scalp. The result was a spontaneous healing of the fungus infection, accompanied by this peculiar alopecia. The large lymph glands point to the general allergic reaction.

VON RECKLINGHAUSEN'S DISEASE? Presented by DR. S. M. PECK.

A girl, aged 10, came to the clinic of the Hospital for Joint Diseases because of a great many brown spots over the body. Since birth an increasing number of these lesions had developed, and the spots themselves were rapidly increasing in size. Over the whole body, but mostly on the trunk, were seen flat, hyperpigmented areas, varying in size from that of a pinhead to 0.75 cm., which were not raised above the surface. The child had had choreiform movements for a long time. The family history was negative from the point of view of pathologic neurology.

HAT-BAND DERMATITIS. Presented by DR. LOUIS CHARGIN.

The patient had had the particular hat for a number of years. He had worn it in all kinds of weather, and it had gotten wet many times. About six or seven weeks prior to presentation, he had noticed a red band of eruption limited to the area where the hat band came in contact with the forehead. This had persisted. He had continued to wear the hat until he came to the clinic several days prior to presentation. The condition was recognized as a hat-band dermatitis, and a patch test was performed with the leather from the band, which produced a definite reaction.

At the time of presentation, the dermatitis on the forehead was still present, but to a lesser extent than when first seen.

LUPUS PERNIO. Presented by DR. LOUIS CHARGIN.

B. F., a man, aged 45, married, the father of two healthy children, had enjoyed comparatively good health always. He had worked as a cigar maker many years prior to presentation, but during the past ten years had worked as a salesman in a candy store. He had suffered from "red ears" for years, but they had caused him no disturbance. About three years prior to presentation, during the winter, he had noticed that his hands became red and that "lumps" developed on his ears. This process had persisted. He thought that he had frozen his ears. At first the number of lesions was small, but as time progressed they increased in number as well as in size.

At the time of presentation, the patient exhibited marked redness over the dorsal aspect of the hands. The skin was soft and showed no infiltration. Most of the disturbance was on the ears. The rims, but especially the lobules and margins, showed infiltrations, superficial and deep. The color was bluish red. There was some scaling of the entire area affected. Occasionally, he suffered from "lumps" in his cheeks, but when presented the skin was merely thickened; no masses were present. Because of the redness of the face, a red blood cell count was made, which showed: red cells, 4,600,000, and hemoglobin, 75 per cent. A roentgenogram of the hands showed no changes in the bones. Tuberculin tests, 1:10,000 and 1:1,000, proved to be negative.

Biopsy of the lesion on the ear showed diffuse infiltration in the cutis and subcutis. This was composed mainly of lymphocytes, but in the center of the infiltrated area there were many epithelioid cells. The elastic tissue was destroyed, and the blood vessels showed endothelial swelling.

A specimen of tissue taken from a lesion on the hand for biopsy showed hyperkeratosis and dilatation of the blood vessels and also edema of the vessel walls.

PHENOLPHTHALEIN ERUPTION. Presented by DR. PAUL GROSS.

S. S., a girl, aged 17, had had the condition for four years intermittently. No history concerning the taking of drugs was obtained from the patient, although she had taken Ex-Lax several years previous to presentation. She could not remember taking any phenolphthalein preparation recently. Incidently, the mother had been questioned, and the following fact was ascertained: The mother had been giving the patient Feenamint chewing gum on and off, without the patient's knowledge that the gum contained a laxative.

On first examination, a typical fixed eruption of large erythematous patches was found on the trunk and thighs, and a similar patch was found on the left thumb. These were purplish with somewhat brown centers.

On April 4, 1932, the patient returned, and the erythema was found to have completely subsided, leaving a grayish-brown pigmentation.

SCLERODERMA DIFFUSUM? Presented by DR. PAUL GROSS.

C. L., a woman, aged 50, Jewish, born in the United States, had had a discoloration on the arms which she believed had disappeared six months prior to presentation, but she had noticed a recurrence about four months later. On examination, a diffuse, purplish-red discoloration was found on the upper extremities and shoulders. The skin appeared hidebound, especially on the forearms. There were also irregular areas in the groin, on the lower part of the abdomen and on the right breast in which the skin was more pliable. The hands and feet were of normal temperature.

The Wassermann test was negative. The chemical analysis of the blood showed: sodium chloride, 487.6 mg.; sugar, 103.2 mg.; urea nitrogen, 12.5 mg., and uric acid, 3.71 mg. The basal metabolic rate was plus 20.

Sections from the skin of the patient showed keratosis and acanthosis. The epithelium was somewhat edematous. Follicular funnels were filled with keratin.

The collagen seemed increased. The individual fibers were thickened and hyalinized. The deeper fibers were much coarser than the superficial ones. The vessels were dilated. About some of the vessels were clumps of lymphocytes. The elastic tissue did not show anything distinctive.

An uncertain diagnosis of scleroderma was made.

ACTINOMYCOSIS. Presented by DR. LEWIS B. ROBINSON.

J. M., a man, aged 26, colored, in April, 1931, had a swelling of the left and right sides of the jaw, which was incised from the outside and the inside. About 1½ drachms (5.82 Gm.) of pus was obtained. The swelling then subsided, but a small granulomatous papule remained on the outside of the jaw which occasionally exuded a drop of pus. In November, the swelling again returned, with pain which seemed to be localized around two or three lower molars. The teeth were extracted, and an incision was again made into the swelling. Since then, the swelling had persisted and had gradually increased. The Wassermann reaction was 4 plus. A smear was taken from the wound, which showed sulphur-like granules. A culture was taken which showed positive actinomycosis. The patient had been given treatment for syphilis for two weeks, without noticeable improvement.

MINNESOTA DERMATOLOGICAL SOCIETY

April 6, 1932

H. N. KLEIN, M.D., *President, Presiding*

TUBERCULOSIS ULCEROSA BUCCALIS. Presented by DR. C. D. FREEMAN.

A. O., aged 32, is married and has one healthy child. Following some dental work about six months ago, an ulcer, a little smaller than a dime, developed on the gum in the region of the lower first and second molars on the left side. Biopsy gave negative results. The Wassermann test was negative. There is a definite family history of tuberculosis. Examination of the patient, including roentgen examination of the chest and teeth, gave negative results. He is presented for suggestions as to treatment.

DISCUSSION

DR. J. F. MADDEN, St. Paul: The ulcers occur on the parts of the gums that are in contact with fillings in the teeth. Dr. Lane, of Oklahoma City, at the meeting of the American Medical Association in Philadelphia in June, 1931, demonstrated several similar cases which were due to an irritation caused by an electric current set up between amalgam and gold fillings. I think it would be wise to change the fillings in these teeth before resorting to any radical procedure.

DR. S. E. SWEITZER, Minneapolis: I suggest examination for fungi; if none are found, I should take a small biopsy specimen to see if the condition is tuberculous. If tuberculosis is found, the patient should be treated for tuberculosis. There is no use in treating for tuberculosis unless the patient has it.

DR. H. E. MICHELSON, Minneapolis: I think that clinically the lesions are tuberculosis of the miliary ulcerating type. This condition occurs only in persons with advanced tuberculosis, and in that event local treatment is of little avail. In Vienna, Professor Volk advised the use of radium and iodoform as palliative measures.

DR. L. H. WINER, Minneapolis: Dr. Michelson mentioned the use of radium. Professor Volk in Vienna uses radium in most cases of tuberculosis of the mucous membrane.

A Case for Diagnosis (Tuberculosis Follicularis Disseminatus Faciei?). Presented by Dr. C. D. Freeman.

Mr. P., a man, aged 38, shows dull red inflammatory papules, of six months' duration, which involved the cheeks and chin and especially the lower eyelids and upper lip. Some of the lesions have been purulent to the extent that a physician has opened a few lesions.

Note.—The diagnosis of tuberculosis follicularis disseminatus faciei was confirmed by biopsy.

DISCUSSION

Dr. H. E. Michelson: I think that this is a case of lupus miliaris disseminatus faciei. Dr. Winer and I are working on a paper on tuberculosis of the face, and we have given this condition considerable investigation and thought. Acnitis is the largest lesion of the type that might be known as tuberculid lesions of the face, while the rosacea-like tuberculid of Lewandowsky represents the smallest. These conditions vary somewhat in size, depth, color, location and the amount of necrosis present. We have also performed a number of biopsies in frank cases of rosacea and, as Professor Kren of Vienna has warned, the sections sometimes look surprisingly like tuberculous tissue. I recommend the use of gold salts intravenously and very mild doses of roentgen rays.

Dr. L. A. Brunsting, Rochester: I agree with Dr. Michelson, although the proof would lie in the histologic section. Lupus miliaris disseminatus frequently resembles acne rosacea. The lesions about the eyelids are particularly large and coalescing. At present there is practically no pustular element to confuse the issue.

Dr. H. N. Klein, St. Paul: Dr. Freeman showed me this case a short time ago, and at that time there were some small pustules below the margins of the lower eyelids.

Dr. W. H. Goeckerman, Rochester: I agree with Dr. Michelson's diagnosis, and I was particularly interested in the differential diagnosis from acne rosacea. The resemblance of these diseases to one another is well known. Several years ago, in culling the literature, I found that Jadassohn had already emphasized this resemblance more than twenty years ago.

Dr. L. H. Winer: In 1910, Professor Arndt of the Berlin Dermatologic Society demonstrated a case of lupus disseminatus of the face and lesions of the extremities resembling acnitis, and he presented the case as a combination of two conditions. In 1923, Kumer, of the Riehl Clinic, in citing Arndt's work, said that both conditions are lupus miliaris, which on the extremities resembles acnitis. The interesting thing about the case presented here is that Dr. Freeman diagnosed the condition papulonecrotic tuberculid, and Dr. Michelson and I have been of the impression that acnitis was a form of papulonecrotic tuberculid. It seems to us at present that all forms of tuberculosis of the skin tend to merge, and thus one can easily understand why a diagnosis of papulonecrotic tuberculid could be made.

Dr. S. E. Sweitzer: I am inclined to believe that this condition is lupus follicularis disseminatus, and for treatment, instead of using gold preparations, I should put the patient on a salt-free diet with a high fat content and some protein, to see if he would not get better without the use of gold compounds. I consider gold preparations dangerous.

Lichen Planus Ocreaformis. Presented by Dr. S. E. Sweitzer.

D. S., a white woman, aged 68, presents an eruption limited to the extensor surface of the right leg, from the knee to 3 inches above the ankle, which has been present for twelve years. The eruption consists of a violaceous, elevated, dry plaque, covering the entire extensor surface and made up of large, dime-sized papules, the tops of which are rough and covered by a whitish scale. The pruritus has been gradually increasing and is now marked. Biopsy showed

marked hyperkeratosis and a typical infiltrate of lichen planus. The only treatment has been the use of sulphur, applied by the patient.

DISCUSSION

DR. H. E. MICHELSON: I think that this is the first case of lichen ocreaformis that has been shown before this society. It is to be differentiated from the gigantic type of neurodermite of Brach and prurigo nodularis. The blue color, the gridiron arrangement and the extreme chronicity point to the diagnosis of lichen planus ocreaformis. The microscopic picture is that of a verrucous lichen.

DR. S. E. SWEITZER: This case resembles markedly the one presented by Liberthal, and a photograph in one of the textbooks on dermatology looks exactly like the condition. The case is unusual, and the first one seen in this state, I think.

A CASE FOR DIAGNOSIS. Presented by DR. S. E. SWEITZER.

W. B., a white boy, aged 8, presents an eruption which has been present since the age of 3 months, and which consists of several patches made up of pinhead-sized, bluish papules located on the chest, thighs, abdomen and ankles.

NOTE.—A second biopsy specimen, taken after the meeting, showed that the papillary cutis was homogenized in areas, having lost its fine fibrillary structure. The reticular cutis was normal. The hair follicles deep in the cutis showed changes, namely, infantilism of the sebaceous glands and irregular proliferation of the cells at the base of the follicle, with the formation of a minute cyst in the center of the proliferating mass. The epidermis above the follicles showed slight thinning, flattening of the rete pegs and a slight increase of the stratum corneum. The diagnosis was undifferentiated follicle nevus.

DISCUSSION

DR. JOHN BUTLER, Minneapolis: I think that the condition in this case is rather typical of lymphangioma.

DR. H. E. MICHELSON: I have examined the sections, and was much surprised not to find involvement of the follicular system. The only other diagnosis I can suggest is colloid degeneration.

DR. S. E. Sweitzer: Lymphangiomas usually contain fluid, and one can puncture the lesions and release the fluid.

DR. W. H. GOECKERMAN: I think it would be presumptuous for one seeing the condition for the first time under artificial light to express a decided opinion. My impression is that it is a definite degenerative process in the skin, possibly colloid. The diagnosis can be settled only by histopathologic examination. Pseudoxanthoma elasticum and colloid milium must be considered.

A CASE FOR DIAGNOSIS (FOLLICULITIS?). Presented by DR. C. D. FREEMAN.

Miss A., aged 16, has definite folliculitis and scarring over a large area of the scalp, which began at the age of 4, and which has spread gradually on the periphery.

NOTE.—The diagnosis was folliculitis decalvans. The results of biopsy coincided with the clinical findings.

DISCUSSION

DR. H. E. MICHELSON: It is interesting to note that Sir Graham Little and Dr. Barber of England think that pseudopelade of Brocq is an end-result of lichen planus. In fact, at one of the recent meetings of the London Dermatological Society, Sir Graham Little, who is undoubtedly a master on the subject of lichen planus (for all the members of this society recall his excellent paper read in Atlantic City a few years ago), stated that the scalp is more frequently

involved than has been supposed. I also have noted that certain thickened, purplish, plaquelike lesions on the nape of the neck, which I formerly called nuchal eczema and which now appear more like lichen planus to me, respond to injections of mercury.

PERNIONES. Presented by DR. H. E. MICHELSON.

A woman, aged 22, is presented because of local, elevated, painful lesions of the extremities, which are much worse in the winter months. There is no necrosis. The hands and feet are constantly cold and clammy.

DISCUSSION

DR. L. A. BRUNSTING: The lesions on the fingers are apparently involuting and are not distinctive at present. Folliclis must certainly be considered. The hands are purplish and moist. The circulation is adequate, since the blood vessels are patent. There are no trophic disturbances. However, I believe that the underlying disorder is acrocyanosis or mild Raynaud's disease, which is a step further, and this should be studied more fully. The history of pain in the extremities at periodic intervals is quite suggestive of Raynaud's disease. It has been recorded previously that tuberculids are prone to develop on a background of vasomotor disturbance, such as acrocyanosis.

A CASE FOR DIAGNOSIS. Presented by DR. H. E. MICHELSON.

M. G. was shown at the last meeting and is now presented to show the change in his condition (ARCH. DERMAT. & SYPH. **25**:1133 [June] 1932.

DISCUSSION

DR. JOHN BUTLER: I suggest a diagnosis of Moeller's glossitis for the lesions of the tongue.

DR. W. H. GOECKERMAN: I saw this patient at the last meeting, and again during a brief visit on his part to Rochester, when I did not make any detailed studies because I knew he was under competent investigation. I am impressed today by the fact that his local and general condition is growing worse. I suggest for consideration a diagnosis of one of the lymphoblastomas or atypical hemorrhagic sarcoma of Kaposi.

DR. H. E. MICHELSON: This patient was presented at a previous meeting, and it has been noted today that the condition is progressing and he is becoming much more emaciated. No diagnosis has been made. My associates and I are at a complete loss in our interpretation of the condition. Dr. Butler evidently has a different conception of Moeller's glossitis than I have. I look on this condition as identical with the glossitis found in pernicious anemia, but it may occur independent of changes in the blood.

DERMATITIS VEGETANS. Presented by DR. S. E. SWEITZER.

L. E., a white girl, aged 16, presents several plaques located on the hands, arms, legs and face, from 1 to 3 cm. in diameter, red and crusted, which ooze and bleed on removal of the crust. The bases of the lesions are of granulation tissue. The lesions had been present for five weeks when treatment was begun. Improvement has been rapid under treatment with staphylococcus vaccine and lead oleate ointment, U. S. P.

DERMATITIS EXFOLIATIVA (ARSENIC). Presented by DR. S. E. SWEITZER.

This patient was presented at a previous meeting. She was under antisyphilitic therapy in May, 1931. An arsenical dermatitis developed, and she was in the hospital for several months for treatment for this condition. She lost all

her hair and nails twice, and several times death was expected. The patient now feels well and has gained considerable weight.

DISCUSSION

DR. J. F. MADDEN: This case, as well as one other that has recently been seen at the University Hospital, illustrates what may be an important point in arsphenamine poisoning. Following the first three intravenous injections of neoarsphenamine, Dr. Sweitzer's patient spent a week-end in the country. She appeared at the University Hospital during the course of the next few days with an acute vesicular, weeping dermatitis confined to the hands and arms, which appeared to be a typical ivy dermatitis. She stated that she was very susceptible to ivy and had been poisoned several times before. The diagnosis of dermatitis venenata due to poison ivy was made, but, because of the recent injections of neoarsphenamine, the patient was cautioned to return for daily observation. She disappeared for a week and returned with a generalized exfoliative dermatitis.

A second patient, who had been treated for syphilis for several months, contracted acute pityriasis rosea. The patient was then being given bismuth therapy, and the eruption faded in due time. Faint erythematous spots still persisted when treatment with neoarsphenamine was begun. After the first injection an acute urticarial eruption appeared at the sites of the fading lesions of pityriasis rosea.

In both cases the arsenical reaction appeared at what seemed to be the points of lowest resistance on the cutaneous surface.

ICHTHYOSIFORM ERYTHRODERMA. Presented by DR. S. E. SWEITZER.

F. T., a white woman, aged 41, presented an eruption which she had had since birth. It consisted of yellowish hyperkeratotic plaques in the axillae, the region of the neck, the antecubital folds, the popliteal spaces and the groin. The skin of the face was rough and thickened. There were a few bullae on the left side of the neck, and the patient stated that formation of bullae had occurred frequently, especially during childhood. The nails and the mucosae were normal. The Wassermann test was negative.

DISCUSSION

DR. W. H. GOECKERMAN: I think that the members of the society can readily agree with the diagnosis of ichthyosiform erythroderma. I have been interested in these cases, not because I can do much for the patients, but merely to clarify my conception. The condition can assume such variegated pictures that diagnosis may be difficult unless one is aware of nature's ability to produce multitudinous ectodermal anomalies. Some types resemble other fundamental disturbances rather closely. In this sense I agree with the diagnosis. While I have not seen an exact duplicate of this case, I think that the essential features of ichthyosiform erythroderma are all there.

PSORIASIS PLUS SYPHILIS? Presented by DR. H. G. IRVINE and DR. D. D. TURNACLIFF.

F. E. L., a white man, married, aged 40, has had psoriasis for many years. He has seen several dermatologists, and the diagnosis has never been questioned, although Wassermann tests have always been negative.

The patient was first seen in October, 1931, with an eruption on the knees and elbows and a few spots on the body; the eruption was worse on the hands and feet, where the nails were involved, and there were many very thick warty plaques, especially on the feet. There seemed to be no question about the diagnosis.

Fractional doses of roentgen rays were used on the hands, and some on the feet, together with ointments. The hands cleared up entirely, and the nails were much improved. The feet also were much improved by December.

A month later the patient returned with an acute outbreak. The hands showed paronychia and palmar papules and patches that were suggestive of syphilis. The feet were much worse and extremely sore. While there were new lesions suggestive of syphilis, there were many quite as surely those of psoriasis. Wassermann and precipitation tests were negative repeatedly. Treatment with potassium iodide showed little result.

On January 28 treatment with injections of bismuth was begun. The hands started to clear up promptly, the paronychia subsided, and the feet have almost cleared up after ten injections. The plaques on the elbows and some of those on the body have changed little.

Has the patient psoriasis or syphilis, or both?

DISCUSSION

DR. J. F. MADDEN: During the past year at the University Hospital the chronic discoid type of lupus erythematosus has been treated with bismuth salicylate. This treatment has been used initially in most cases, and in many cases temporary cures have been produced. I do not see why bismuth might not have the same effect on psoriasis that it has on lupus erythematosus. This case, I think, is one of psoriasis alone.

DR. JOHN BUTLER: I think that the condition is definitely psoriasis, from the localization of the lesions on the arm and also from the appearance of the lesions. Also the lesions of the nails are typical of psoriasis.

DR. H. N. KLEIN: This patient came to me about two or three years ago, and during that time presented a typical picture of psoriasis.

DR. H. G. IRVINE: I think that this is an extremely interesting case and that the diagnosis cannot be entirely settled yet. The patient came to me last fall with characteristic psoriasis that had been present for a number of years and had been diagnosed by several physicians. The worst lesions were on the hands and feet, but with treatment, including roentgen therapy, they were practically cleared up. After a brief interval there was an acute outbreak; the feet were so sore that the patient could not walk, and there was a palmar eruption of thick papules suggestive of syphilis. There was no response to local treatment for psoriasis or to iodides, but all tests of the blood for syphilis were negative. However, in view of the palmar eruption, I started treatment with bismuth, and there was immediate response, which has continued. The patient has marked paronychia with pus and destruction of the nails, which is not likely to occur with psoriasis; moreover, he has never had any lesions on the scalp, where psoriasis is prone to occur.

DR. H. E. MICHELSON: I think this is a case of psoriasis with extraordinary verrucous formation. I cannot agree with the diagnosis of syphilis because of the distribution and the arrangement of the lesions, the lack of ulceration and the completely negative results of serologic examination. The response to bismuth is not conclusive, for many French and Italian observers have obtained good results in psoriasis with injections of bismuth. Porokeratosis must also be considered, and biopsy should be performed.

DR. S. E. SWEITZER: I should make a diagnosis of psoriasis in this case. I should also like to call attention to the fact that one can get results with bismuth in psoriasis. Personally, I think that the patient has psoriasis, but certainly it is an obstinate case.

DR. H. G. IRVINE: I do not wish to be misunderstood. I am not making a diagnosis of syphilis; rather, I have agreed to the diagnosis of psoriasis. But, if the patient becomes entirely well and stays well, either he has syphilis or bismuth has cured psoriasis.

DR. W. H. GOECKERMAN: The case has been well analyzed, and it is interesting. If I were tied down to one diagnosis, I should say psoriasis. If there is true paronychia, I should be inclined to think this patient may have both syphilis and psoriasis. The lesions on the elbow are psoriasis. It is not impos-

sible to explain all the changes by psoriasis, nor is the response of the condition to bismuth against this diagnosis. My experience in the treatment of psoriasis is that it will respond to almost any treatment at times in given instances. That is true of other interferences with the body economy as well as of conditions produced by drugs. Several years ago a patient with splenomegaly came under my observation who had psoriasis also. Splenectomy was performed, and within two weeks an extensive eruption had completely involuted. After another ten days the patient was again literally covered with lesions of psoriasis. Similar experiences are not uncommon. I feel, however, with Dr. Irvine, that if the improvement continues and the eruption involutes permanently, there can be little doubt about syphilis.

DERMATITIS VENENATA (YELLOW MERCURIC OXIDE OINTMENT). Presented by DR. J. F. MADDEN.

Miss M. T., aged 40, stated that on March 22, 1932, she consulted a physician for what she described as sore eyelids. He prescribed applications of a 1 per cent yellow mercuric oxide ointment. The first application was made on the night of March 22. On the morning of March 23, the patient's eyes were closed by massive edema, and she complained of terrific pruritis. At the present time the eyelids and adjacent skin present an acute, weeping, crusted dermatitis which has been present since the ointment was applied.

DISCUSSION

DR. H. E. MICHELSON: I think that so-called eczema of the eyelids is obstinate. Cosmetics, white gold and plants in my experience have been the most common causes. Response is slow, and the condition persists long after the offending substance is removed. Furthermore, patch tests applied to the arm, when the irritant is known, sometimes are negative while the eyelids react in a marked manner.

DR. L. H. WINER: Another thing about these patch tests is that at certain times they give positive reactions, and at other times negative reactions, in the same person.

DERMATITIS CHRONICA ATROPHICANS (FIBROUS BAND FORMATION, JUXTA-ARTICULAR NODES, AND ATROPHY AND PAPILLOMAS OF THE TONGUE). Presented by DR. S. E. SWEITZER.

G. N., a white woman, aged 56, stated that the present condition was of fifteen years' duration. The onset was on the hands, with redness and swelling. In the course of several years the forearms and lower extremities became involved. There is now marked atrophy of the skin over the arms and legs. On the medial surfaces of the forearms are fibrous bands extending from the elbow to the wrist. The patient has noticed numerous nodules over the elbows, sacrum and hips for the past five years. The hands and feet are affected by arthritis of the deforming type showing atrophic changes on roentgen examination. The tongue is smooth, dry and atrophic and shows three small papillomatous growths on the right border.

DERMATITIS CHRONICA ATROPHICANS (GENERALIZED AND MACULAR TYPES IN THE SAME PATIENT). Presented by DR. S. E. SWEITZER.

A. P., a white woman, aged 57, stated that the cutaneous trouble began fifteen years prior to this presentation on the right hand, as an erythematous blotch which slowly progressed to the elbow. Eight or ten years ago both knees became reddened, and, as on the arm, the condition spread over both legs. The patient feels well except for occasional nosebleed.

The disease now shows extremely thin, reddened, diffusely atrophic skin on the arms. On the lower extremities below the knees there is diffuse generalized

atrophy. Cigaret paper wrinkling is marked. Above the knees there are several atrophic areas varying in size from that of a pea to that of a dollar, with ballooning in several of the larger lesions. The Wassermann test is negative.

DISCUSSION

DR. S. E. SWEITZER: These two cases are interesting. One shows arthritic symptoms on the hands in the form of arthritic deformities. Roentgen examination revealed atrophy. There are also fibrous nodes and plaques. Involvement of the joints is rare; the nodes and plaques of fibrous tissue are not so rare in such cases.

The second case shows the diffuse type of atrophy on the lower part of the leg, while that on the thigh is of the macular type. One usually sees either type alone. The tongue also is atrophic in the first case.

DR. J. F. MADDEN: Moore recently published a rather extensive article on juxta-articular nodes in syphilis, and he seemed to think that they occur frequently in untreated patients. My associates and I have found juxta-articular nodes uncommon in syphilis, but Dr. Wetherby of the medical department stated that they occur often in arthritis. The eruption is about equally extensive in both of Dr. Sweitzer's patients. However, the patient with the arthritis is the only one presenting juxta-articular nodes. Dr. Michelson informed me that acrodermatitis associated with nodes has frequently been described in the literature. I wonder whether the nodes should be associated with the arthritis rather than with the acrodermatitis?

DR. L. A. BRUNSTING: Juxta-articular nodes have been described in association with acrodermatitis chronica atrophicans, even without the presence of arthritis. Jessner has covered the subject of differential diagnosis rather fully. It is often difficult to distinguish the nodes of this type from those associated with syphilis, yaws or rheumatic fever. The histologic picture is frequently only that of fibrosis with a cellular infiltrate of nonsyphilitic character. The extent of the fibrosis in this particular case is unusual, especially the band of fibrous tissue along the ulnar border of the left arm.

DR. J. F. MADDEN: Moore felt that the nodes of syphilis could be distinguished microscopically, but Dr. Clawson, of the pathology department, agrees with Dr. Brunsting in maintaining that the microscopic picture is nonsyphilitic, and that the syphilitic nodes cannot be distinguished from those accompanying arthritis.

DR. L. H. WINER: These cases are interesting because of the bands on the arms, which typify the late stages of dermatitis atrophicans. Oppenheim, in Jadassohn's handbook, discussed these bands, and he was under the impression that in this condition they are nature's method of calling a halt to the process, or producing healing of the process. There is a laying-down of fibrous tissue with an attempt to wall off and to stop the process and restore weakened tissue. Microscopically, a syphilitic juxta-articular node would at all stages show more round cell infiltration. Besides this, the presence of a fibrous band in this case is not characteristic of nodositas juxta-articularis and would rule out that diagnosis.

DR. S. E. SWEITZER: If one examines the condition carefully, one will find a shelflike border running down. Biopsy was made in both cases.

UNIVERSAL HEMANGIECTATIC NEVUS. Presented by DR. H. E. MICHELSON.

A man, aged 20, stated that at birth he had a small hemangioma over the back, and that at the age of 12 a large number of small lesions began to develop over various parts of the body. At the time of this presentation there are literally thousands of vascular lesions from the size of a pinpoint to that of a match head scattered over the body, which are especially marked on the thighs, forearms and scrotum.

Biopsy showed dilatation of the superficial vessels with an intact epidermis.

DISCUSSION

DR. H. E. MICHELSON: I am going to report this case in detail. It is quite similar to the case of melanosis lenticularis that I presented last year, except that there is no pigmentary change. The condition is entirely due to ectatic vessels.

MANHATTAN DERMATOLOGIC SOCIETY

GEORGE M. MACKEE, M.D., *Chairman*

MIHRAN B. PAROUNAGIAN, M.D., *Secretary*

April 12, 1932

LUPUS VULGARIS OF THE CHEEK. Presented by DR. M. B. PAROUNAGIAN.

A girl, aged 9 years, was taken to the skin clinic of Bellevue Hospital on March 9, 1932, because of a lesion on the left cheek which was of over four years' duration. It was situated in the submaxillary region, and was ¾ by ½ inch (1.9 by 1.27 cm.) in size, slightly elevated and dark brownish. About one year previously an application of carbon dioxide snow had been made at a skin clinic in New York. The girl's Wassermann reaction was negative, and the family history was unimportant.

The object of the presentation was to get an opinion as to surgical treatment by excision, as the lesion is small and circumscribed.

DISCUSSION

DR. MAX SCHEER: I agree that the treatment suggested, namely, excision, is the best, and I think that the excision should be deep.

DR. LOUIS B. MOUNT: I agree with the presenter, and favor the procedure as outlined. Even in large areas, excision can be done and grafts of amniotic membrane used if necessary.

DR. PAUL E. BECHET: I obtained a complete cure, with no scarring, in a superficial patch about 1 mm. in diameter by means of the cold cautery. One application was sufficient. The child had scrofuloderma also, which cleared up completely after a few roentgen and generalized ultraviolet ray treatments.

I agree with Dr. Satenstein that a small linear scar might be less noticeable, but when the area is superficial the scarring from carbon dioxide snow is negligible, and this method of treatment is as good from a cosmetic point of view as excision.

DR. FRED WISE: In the cases in which excision was done the result has been good. I have had only a few such patients under my care.

DR. GEORGE M. MACKEE: The quickest and most certain way to remove the lesion is by excision. However, this lesion is not very small. In order to obtain apposition it would be necessary to make an incision of 2 or 2½ inches (5 or 6 cm.). If healing were perfect, the scar would hardly be noticeable by the time the child becomes a young woman. On the other hand, there would be considerable tension, which might lead to a hyperplastic wide scar, which would be disfiguring throughout life. It should be possible to get rid of this lesion with little or no permanent defect by means of ultraviolet radiation applied according to the general rules of the Finsen method. This might be combined with treatment with tuberculin and a diet high in vitamin and low in salt.

DR. MIHRAN B. PAROUNAGIAN: Carbon dioxide snow had been used at another clinic about one year prior to the patient's admission, but the condition is progressing. I am pleased that the opinion of a majority of the members present supports my suggestion for therapy.

A Case for Diagnosis (Ulcus Vulvae?). Presented by Dr. Andrew J. Gilmour.

R. G., a woman, aged 28, single, was born in the United States. Her past history is unimportant except that during the nine years prior to this presentation at various times she has had ulcers on the vulva. These were so painful that she was unable to "walk or sit." There have been perhaps twenty of these ulcers, which last from two to three weeks and disappear without treatment. Medication with salves, lotions and ultraviolet radiation, and three roentgen treatments given a few months ago have not benefited the patient.

The results of physical examination were as follows: On the lower portion of the left labium majorum, there was an ulcer with sharp-cut edges and a base covered with a rather gummatous, yellow film. There were no healthy granulations at the time of presentation. The ulcer was ¾ by ½ inch (1.9 by 1.27 cm.) in size; the long axis was parallel with the labium majorum. The depth of the ulcer was about ⅛ inch (0.3 cm.). On the same location of the right labium majorum was an ulcer similar in position but extending below the labium majorum. This ulcer was 1 inch long by ¾ inch in diameter (2.5 by 1.9 cm.). The patient reported that many Wassermann tests had been made, all of which had been negative. A Wassermann test made at the clinic a few days prior to this presentation was negative for an alcoholic and cholesterol antigen. The time that has elapsed is too short to give the results of the clinical tests. The probable diagnosis is ulcus vulvae acutum.

DISCUSSION

Dr. Fred Wise: Ulcus vulvae acutum is a probable diagnosis. Bacteriologic examination must be made in order to confirm it.

Dr. Isidore Rosen: I agree with Dr. Wise's opinion that the condition is probably ulcer vulvae acutum. Recurrent ulcerating lesions of this kind are sometimes very painful, and while they heal spontaneously, at times they are resistant to all forms of therapy.

Dr. George C. Andrews: I agree with the diagnosis of ulcus vulvae acutum, for the reasons already stated and also because the disease appears in definite attacks which clear up spontaneously after a few weeks.

As a relationship between this disease and herpes simplex has often been mentioned, I suggest that treatment with filtered roentgen rays might be helpful in preventing recurrences.

Dr. George M. MacKee: All present agree with the diagnosis of ulcus vulvae acutum. It is advisable, however, to exclude other possibilities by means of bacteriologic investigation. The ulcers are acute, deep and painful. They disappear in time, and new ones occur. The clinical characteristics suggest a similar condition which occurs in the mouth and which was described many years ago by Sutton, who called it periadenitis mucosa chronica recurrens. Fordyce and others who studied the histology of this condition thought it resembled papulonecrotic tuberculid both clinically and histologically.

Tuberculosis Verrucosa Cutis in a Patient with Tertiary Syphilis. Presented by Dr. M. B. Parounagian.

Mrs. R. M., aged 39, was admitted to the skin clinic of Bellevue Hospital on April 17, 1931. She then had a four plus Wassermann reaction and a small patch on the left side of the lower lip. The lesion was irregular in outline, with a depressed center and verrucous borders. At first there was some doubt as to the diagnosis. However, after two courses of antisyphilitic treatment, consisting of sixteen injections of neoarsphenamine, fifteen of mercuric salicylate and eight of thiobismol, instead of showing improvement, the lesion became much larger, and the Wassermann reaction was again four plus on April 1, 1932.

DISCUSSION

DR. GEORGE C. ANDREWS: I do not think that there is a verrucous condition of the skin or that the lesion looks like tuberculosis verrucosa. The lesion has apparently healed at the center with formation of scars, leaving a depressed, atrophic, scarred center about which there is an infiltrated periphery. The lesion is probably some type of granuloma and most likely a form of tuberculosis.

DR. LUDWIG OULMANN: I regard this lesion with the infiltrated margin and atrophic center as lupus erythematosus.

DR. FRED WISE: My impression is that the lesion is sarcoid of Boeck.

DR. ANDREW J. GILMOUR: I think that the condition is lupus erythematosus.

DR. GEORGE M. MACKEE: I notice that the center of the lesion not only is slightly atrophic and less edematous and erythematous but is covered with a rather thick, adherent, horny layer. It may have been this appearance that gave Dr. Parounagian the impression of a verrucous lesion. The lesion does not seem to answer the clinical requirements of tuberculosis verrucosa cutis. While the condition may be sarcoid or even possibly lupus vulgaris, my choice is lupus erythematosus.

DR. MIHRAN B. PAROUNAGIAN: I excluded syphilis on account of the results of therapy. I think almost any syphilitic lesion would disappear with the amount of treatment that was given. If the lesion is a form of sarcoid, I think that the treatment would have benefited it, while on the contrary it is progressing. As to lupus erythematosus, the lesion was too much infiltrated and the borders were verrucous.

PSORIASIS OF THE HANDS. Presented by DR. M. B. PAROUNAGIAN.

S. S., a man, aged 27, presented an eruption on the dorsal aspects of both hands, confined mostly to the digital ends. The lesions were scaly and a typical silvery white, with pinkish borders. The duration was three years. He had no other lesions on the body and had never had any. He stated that his father has had psoriasis for a number of years.

Prior to his visit to me, he had received about twenty-five applications of roentgen rays and some treatment with ultraviolet irradiation, without much improvement.

MYCOSIS FUNGOIDES. Presented by DR. M. B. PAROUNAGIAN.

J. B. was presented before this society last month with the diagnosis of mycosis fungoides with which no one but Dr. Goldenberg agreed. Since the presentation, a report on the biopsy has been returned by the Bellevue laboratory stating that the lesion was mycosis fungoides. The lesions have not changed greatly, and itching has been intense.

DISCUSSION

DR. LUDWIG OULMANN: Clinically the patient has a generalized eczematous condition. As it is of long standing a diagnosis of mycosis fungoides is feasible. A positive diagnosis can be made only by biopsy.

DR. LOUIS B. MOUNT: I still think that the condition is eczematoid dermatitis.

DR. MAX SCHEER: I do not think one should rely on the report of one laboratory. Clinically the case is one of eczema.

DR. ISADORE ROSEN: I still adhere to my opinion expressed at the previous meeting that this patient is suffering from some form of mycotic eczema.

DR. J. FRANK FRASER: I cannot make a diagnosis of mycosis fungoides in this case either on clinical or on histologic grounds. There are definite histopathologic changes which experienced dermatopathologists recognize as being characteristic of the clinical syndrome known to dermatologists as mycosis fungoides.

None of these histologic changes was present in the section submitted. Early prefungoid lesions may resemble other dermatoses, such as eczema, psoriasis and urticaria, but even in this early stage at least some of the histologic features of mycosis fungoides are present.

DR. GEORGE M. MACKEE: All of the members of the society know that there have been cases of psoriasis and cases of eczema which were diagnosed both clinically and histologically by excellent dermatologists. These cases have been followed for several or many years without any change in the diagnosis. Later frank mycosis fungoides developed. Here there is the question of identity of disease to be considered. Were these cases of mycosis fungoides from the beginning or were they cases of psoriasis and eczema, which changed to mycosis fungoides, or did these patients have two entirely different diseases? Without taking the time necessary to give all my reasons, I believe that in all such cases the condition is mycosis fungoides from the beginning. Often in the early stages of mycosis fungoides it is impossible to make either a clinical or a histologic diagnosis of mycosis fungoides. In such instances, the condition is mycosis fungoides resembling other diseases both clinically and histologically. On the other hand, it is at times possible to make a histologic diagnosis in a very early case. Repeatedly, I have seen a dermatopathologist who did not see the patient and who knew nothing whatever of the case make a correct diagnosis of mycosis fungoides from microscopic examination alone. Undoubtedly, there are some early cases that can be diagnosed and some that cannot be diagnosed. Also it makes a difference where the tissue is obtained. One early lesion may show the histologic characteristics of mycosis fungoides, while another may not. In this patient, there is one marginated lesion on the leg that is somewhat suggestive of mycosis fungoides, and it is from this lesion that tissue should be taken for microscopic study. During the discussion of this case the term premycosis has been repeatedly used. This is a misleading term. A better one and one that has been recognized is the prefungoid stage of mycosis fungoides.

DR. MIHRAN B. PAROUNAGIAN: I cannot accept eczema as the diagnosis in this case. From some of the opinions expressed I gained the impression that the only way one can make a positive diagnosis of mycosis fungoides is by autopsy. I still believe that this is an early case of mycosis fungoides.

NEW ENGLAND DERMATOLOGICAL SOCIETY

WILLIAM P. BOARDMAN, M.D., *Secretary*

Annual Meeting, April 13, 1932

ARTHUR M. GREENWOOD, M.D., *President*

A CASE FOR DIAGNOSIS. DR. J. D. GOLD, Bridgeport, Conn.

This patient, a married woman, aged 37, came into the Bridgeport Hospital about the middle of March. She died on March 31, 1932. After she entered the hospital, the temperature ranged from 101 to 103 F., and the pulse rate from 95 to 120. The patient's face was very edematous, and there were large hemorrhagic blebs. The latter appeared also on the hands, arms and trunk, although in these situations the lesions were smaller than those on the face. Those on the arms were typical of erythema multiforme. The Wassermann reaction was negative. Early in January the patient had taken six small doses of hydriodic acid for a cold, and an irritation and eruption on the forehead followed. She omitted the medicine, and in two weeks the eruption cleared up. Two days before she entered the hospital the patient took five doses of a mixture containing 10 grains (0.6 Gm.) of iodide of potassium and 10 grains of bromides with phenobarbital to the dose, and the eruption appeared. She grew progressively worse, and the

large bullae ruptured, with the formation of pustules and granulations at their bases. Autopsy showed extensive ulcerations of the skin of the face, neck and forearms, with marked edema both in the hemorrhagic and the granulomatous areas.

The original diagnosis was erythema multiforme, but the authorities all mention such an eruption as being due to potassium iodide. Crocker reported one similar case of eruption due to potassium iodide after 30 grains (1.9 Gm.) of potassium iodide had been given. Whether it was the iodide alone or the combination of iodide and bromide is a question that I should like to have answered.

DISCUSSION

DR. E. L. OLIVER, Boston: A man in the Massachusetts General Hospital showed a bullous eruption on the face and arms; some of the lesions looked like those of anthrax. He had taken two doses of iodalbin, about the equivalent, I think, of 10 or 15 grains of potassium iodide (0.6 or 0.9 Gm.), and the eruption immediately followed. The patient grew worse and died in about a week. The condition on his face looked very much like that shown in the photographs of the present case. At the autopsy it was found that his kidneys were one mass of cysts. The immediate cause of the eruption was considered to be the ingestion of iodides. I have seen two other cases that were similar, though not fatal. I think that the bullous eruption occurs almost entirely in cardiorenal cases.

DR. A. M. GREENWOOD, Boston: I think nephritis is almost invariably a preceding factor in all these cases.

DR. F. S. BURNS, Boston: I remember the case that Dr. Oliver referred to. We had both seen the patient, and what lent additional interest to the case was the fact that this man was a wool merchant; for a time many of his lesions closely resembled malignant pustules, but that diagnosis was excluded. I recall an interesting case of the anthracoid type of eruption due to iodine occurring at the Massachusetts General Hospital a good many years ago. It occurred in a patient who had been having treatment for syphilis and who had been receiving potassium iodide in the conventional way. The man was an expressman, taken to the Emergency Hospital because of an injury. The entire hand and arm were painted profusely with iodine, and a profuse eruption due to the potassium iodide and the iodine developed.

DR. B. APPEL, Boston: I remember a case that did not terminate fatally. It was due to the absorption of an iodine compound from the painting of a wound that had been dusted with thymol iodide. Two or three days later an eruption that was apparently due to the iodide developed.

DR. J. H. SWARTZ, Boston: I think that Dr. Oliver's suggestion is one to be taken into consideration. It is a question whether this is an acute sensitization or whether most of the cases of a severe type have developed after involvement of the kidneys. In working on ethyl iodide with cats reactions have been found to be much more common in cats with nephritic disorders than in those in which there was no damage to the kidneys.

HYDROA VACCINIFORME. Presented by DR. MYER M. TOLMAN, Chelsea, Mass.

B. D., a woman, aged 49, complained that each summer for the past five years following exposure to sunshine she noticed burning, itching and swelling and occasionally desquamating redness on the exposed surfaces. Sometimes the wind would produce the same condition. Last summer, because of edema, the patient was confined to bed for four days following exposure to the sun. The condition has become progressively worse each summer. At present she has no active lesions.

The Hinton and Kahn tests were negative, and the urine showed a large trace of albumin and numerous microscopic red blood corpuscles. Hematoporphyrin was not demonstrated.

HYDROA VACCINIFORME. Presented by DR. MYER M. TOLMAN, Chelsea, Mass.

H. M., a white child, aged 11 years, came to the clinic of the Beth Israel Hospital on Dec. 2, 1931, complaining of an itching eruption on the upper lip, nose, forehead and ears of about one month's duration.

Examination showed a markedly freckled-faced, fair-haired girl with papular, scaling lesions of the face, particularly of the ears. Some of the lesions about the ears were translucent and appeared as dried vesicles. No serum could be obtained from them by a needle puncture.

The patient received a salicylic and sulphur ointment without beneficial effect. She is now receiving increasing doses of ultra-violet rays.

Hematoporphyrin was found.

HYDROA VACCINIFORME. Presented by DR. EDWARD W. KARCHER, Lynn, Mass.

W. DeC., a white truck-driver, aged 17 years, was admitted to the Massachusetts General Hospital because of an eruption on the face, ears, neck and extensor surfaces of the arms. He had had eczema as a child. He first had the condition on his face ten years before presentation; he said that it started as red, itching spots which blistered, and later brown crusts formed. These lesions disappeared within a few days. The condition had recurred five or six times each year since the onset, occurring only in the spring and summer and after exposure to sunlight.

Examination showed reddish-brown crusts coalescing over the nose and ears and scattered over both cheeks, the forehead and the sides of the neck. There were a few small vesicles and pustules, and some small, pitted scars on the unaffected areas. The dorsal surfaces of the hands showed irregular areas of crusting and erosions from 2 mm. to 1.5 cm. in diameter, and also a few vesicles. The extensor surfaces of the forearms showed no active lesions, but several vacciniform scars from 1 to 2 cm. in diameter.

The blood smear showed nothing abnormal. The blood count revealed: red corpuscles, 4,590,000; white corpuscles, 9,300, and hemoglobin, 70 per cent. The urine was negative. No hematoporphyrin was found.

While the patient was under treatment with ointment of zinc oxide, during which time he was kept in a dark room, the lesions disappeared.

DISCUSSION OF CASES OF HYDROA VACCCINIFORME

DR. F. S. BURNS, Boston: Case 2, it seems to me, is actinic sensitivity rather than hydroa. The patient did not show any of the characteristics even of the erythematous type of hydroa aestivale. There was no suggestion of edema in the tissues underlying the erythematous areas.

In case 3 the child had a process that had lasted only since November, 1931, yet it would seem that the reaction, particularly in the ears, closely resembled that of hydroa aestivale. I could not find out by questioning the parent that there had been special exposures to actinic rays at that time or to anything else that tended to precipitate the eruption; nevertheless, the patient had what closely resembled hydroa aestivale.

DR. C. J. WHITE, Boston: Dr. Burns suggested for case 1 a diagnosis of actinic sensitivity. While looking at the case, Dr. Oliver suggested eczema solare. Cases 3 and 4 are examples of what is definitely understood to be hydroa aestivale. One of my cases shows how hydroa aestivale is involved with dermatitis actinica, namely, that of a young girl who could not cross the street in the sunlight without the immediate appearance of bullae. I sent her to Dr. Burns, who treated her with a quartz lamp, and at the end of two months she could go in bathing or walk anywhere without any trouble. It seems to me that these cases are all examples of dermatitis actinica, and I think that the condition should not have these double appellations.

DR. F. S. BURNS, Boston: It should be recognized that there are some people who throughout their lives are immediately sunburned and in whom

exposure to sunlight or to a high degree of temperature always causes sunburn, but in whom no other condition ever develops; that is, groups of vesicles or the type of eruption to which the term hydroa aestivale is applied does not develop. On the other hand, as Dr. White suggests, it may be entirely a matter of degree. It may be fair to assume that there is some special sensitization rather than sensitiveness in the latter class of patients.

DR. H. P. TOWLE, Boston: I agree with Dr. White that it is better to group these conditions under one name, dermatitis actinica, perhaps with several variations. There are certain differences, as Dr. Burns points out; but they are all dependent on the sensitivity to actinic light. In this first case in which there were erythema, swelling, itching and edema, the laboratory could report no hematoporphyrin. On the other hand, in case 3, the type which conformed most closely to the exact description of hydroa aestivale, this was found. It may be that the hematoporphyrin was the determining factor in the more intense case.

DR. E. W. KARCHER, Lynn, Mass.: Is hydroa aestivale necessarily sensitization to light? Might it not be sensitization to heat or to some kind of cold, without light?

DR. H. P. TOWLE, Boston: Yes.

DR. M. M. TOLMAN, Chelsea, Mass.: In the first case, the woman was sensitive to strong wind, the exposures to wind causing just as severe attacks as the sun. She was more concerned about protection against the wind than against the sun.

DR. W. P. BOARDMAN, Boston: It seems to me there is some difference in these cases. In the case of the hydroa aestivale there are both susceptibility to the actinic rays and to the wind. If this is a true sensitivity, why is it that patients about 14 or 15 years of age almost always overcome this sensitivity, whereas in the adult type the true sensitivity to the sun's rays is almost lifelong?

DR. H. P. TOWLE, Boston: I can recall one case, in a woman who was normal until 50 years of age; after that, with exposure of from fifteen to thirty minutes, bullae would develop. This condition persisted for about four years. In the succeeding years the sensitivity declined; now the patient can have full exposure without showing a reaction.

DR. C. G. LANE, Boston: I think that there must be some substance such as hematoporphyrin underlying all these conditions. We must presuppose a sensitiveness ranging from a slightly abnormal physiologic sensitivity, as in the case of hydroa aestivale, to those cases of true urticaria occasionally seen.

LEUKOPLAKIA VULVAE? KRAUSOSIS VULVAE? Presented by DR. WALTER T. GARFIELD, Boston.

E. B., a Jewish housewife, was first seen on Aug. 6, 1931, and a diagnosis of pruritus vulvae was made. Later the patient was treated with starch baths and salve and with calcium gluconate given intramuscularly, but the pruritus grew worse.

The present examination shows an atrophic, somewhat thickened mucous membrane of the inner surfaces of the labia minora. In both groins, around the umbilicus and in both axillae are areas of sharply outlined atrophy with some loss of pigmentation. There is a similar lesion over the breast.

The patient is being treated at present with Kromayer light.

DISCUSSION

DR. W. T. GARFIELD, Boston: I wondered whether this apparent atrophic condition under the arms and at the vulva and labia could have been caused by roentgenotherapy.

DR. J. H. SWARTZ, Boston: I suggest a diagnosis of lichen planus atrophicans. Some of the lesions looked lichenoid, and there was definite atrophy; in the mouth there was a suggestive area. I suggest microscopic study.

DR. F. S. BURNS, Boston: It was interesting to me to see that there seemed to be a correspondence between the process on the labia minora and that in both groins, about the umbilicus and in both axillae. In none of these places could I see the usual sequence of events, that is, hyperkeratosis followed by atrophy, which we recognize as kraurosis vulvae. In all these regions there appeared to be a certain amount of cutaneous atrophy that showed fairly plainly on both sides of the labia minora and likewise in the other regions named. Also in those areas the skin showed a peculiar wrinkled atrophic condition, particularly about the axillae and about the breasts, a condition that suggests the senile changes seen in the elastic tissues in elderly people. I should like to suggest the possibility of there being an elastic tissue change in these regions owing to some peculiar reaction of the patient which I cannot explain, and which apparently occurs in all these regions; for some reason this patient reacts in that way. Personally, I do not see anything to suggest the diagnosis of lichen planus atrophicans, neither could I make out any hyperkeratosis, which would lead one to name the condition either keratosis senilis or kraurosis.

DR. A. M. GREENWOOD, Boston: We have seen two cases within a month or six weeks which were exactly similar to this, both of which on careful examination showed what this case showed—outside of the main areas little, white, atrophic papules with distinctly annular borders—and showed it so markedly that I wonder whether this third case is not atrophic lichen planus involving these parts. I do not know that I have seen any two patients who have been treated exactly alike. I should be interested to hear from some of the other members on this point.

DR. C. G. LANE, Boston: It seems to me that the diagnosis of scleroderma of the morphea type should be considered. The patient has distinctly white areas and some absolutely crêpelike patches in the axillae; she has also on the right side of the neck a small place that feels almost plaquelike. In addition, on the right side of the thigh is an area with more boardlike infiltration than anywhere else. There is a brownish discoloration with the purplish tinge sometimes seen in morphea. I cannot conceive of a picture of that sort being produced by overexposure to roentgen rays; the absence of any telangiectasia is significant. I looked carefully in the patient's mouth, and there is one little suspicious area in the right upper molar region, but it did not agree with my conception of lichen planus.

DR. W. T. GARFIELD, Boston: I should like to know what we should do for the patient. If she has had roentgenography, of course that is not indicated. Apparently the lesions on the body do not cause the distress that the lesions on the vulva do. I talked with a gynecologist who has had a great deal of success packing with a dry tampon and preventing any discharge down to the parts; that seems to give relief.

DR. V. RYAN, Providence, R. I.: I should like to ask why roentgenotherapy is contraindicated. I do not think the skin shows any of the reactions that are to be expected from roentgenotherapy, and there is only a little pigmentation.

DR. E. M. STANDISH, Hartford, Conn.: I agree with the one who made the statement that not very much treatment with roentgen rays is indicated. I had a patient whom I treated with 6 one-sixth units of roentgen rays, who showed telangiectasia even after those small doses. The region is supersensitive, and I think the results in some of these cases should be a warning to use care.

DR. F. P. MCCARTHY, Boston: Were any results obtained clinically? If it is a hidden part of the body, does the telangiectasia indicate anything?

DR. C. G. LANE, Boston: Telangiectasia indicates that there will be a progressive process and that there is a possibility of keratosis and epithelioma later, in ten, fifteen or twenty years. In cases in which the end-result of a disease will result in atrophic erythema I do not think that roentgenotherapy is advisable, and for this particular patient, who has had, so far as I know, an unknown amount of irradiation, I should hesitate to advise further irradiation.

A Case for Diagnosis. Presented by Dr. Myer M. Tolman, Chelsea, Mass.

A Jewish tailor, aged 46, attended the clinic of the Massachusetts General Hospital on account of a condition on the outer aspect of the left thigh. The patient said that he had not had any local trauma preceding the onset, except that when he was 6 years old he had an accident in which the lower part of his leg was twisted. Since that time the outer aspect of the left thigh has been numb. Two years before presentation the present pigmentary changes appeared. The condition does not bother him in any way.

The present examination showed on the outer aspect of the left thigh circinate gyrate lesions which in many places tend to coalesce, and which on the periphery show a mottled purplish-brownish discoloration with central areas of light pigment. These central areas at a distance suggest atrophy, but closer examination reveals no atrophic changes.

The Hinton reaction was negative. A frozen section showed a chronic inflammatory tissue.

DISCUSSION

Dr. E. M. Standish, Hartford, Conn.: I should like to suggest a diagnosis of erythema ab igne. This man has been working before a radiator for the past two years, and the radiator has been on his left side. The clinical picture is now one of pigmentation, with the mosaic effect that is of erythema ab igne.

Epidermophytosis of the Legs and Feet with Epidermophytids. Presented by Dr. Francis P. McCarthy, Boston.

E. C., a white school boy, aged 9 years, was admitted to the skin department of the Boston City Hospital on March 15, 1932, with a history of lesions on both legs of three and a half months' duration and a secondary eruption on the body and arms of six weeks' duration.

Examination showed sharply demarcated, symmetrical, crusted, vesicular lesions involving both legs in the region of the anterior surface of the lower third of both shins and ankle regions and showing a peripheral recent vesicular process. On the dorsum of both hands and the webs of the fingers were similar vesicular, crusted lesions, apparently not so old as the lesions on the legs. On the left side of the face, the dorsum of the right wrist, the extensor surface of both thighs, the region of the right shoulder and the gluteal and lumbar regions were annular areas of grouped vesicles and papules, some lesions definitely crusted, others more recent. All these secondary lesions occurred within ten days.

The patient has shown considerable improvement in the two weeks before presentation.

Dermatitis Due to Roentgenotherapy. Presented by Dr. John G. Downing, Boston.

A. McB., a woman, aged 39, a clerk, in 1926 received about fifteen treatments by the Tricho System for chapped hands. Two years later she began to show dilated red blood vessels on the backs of the hands and later ulcerations on the back of the right hand.

Present examination shows the dorsa of the hands, involving all the fingers from the base of the nails to just above the lower end of the radius, covered with brilliant red lesions which fade on pressure, recurring immediately when pressure is removed and for the most part consisting of superficial dilated vessels (telangiectasia). The dorsum of the right hand shows two ulcerations 1 cm. square, and the hand shows loss of motion of the fingers.

DISCUSSION

Dr. C. G. Lane, Boston: I saw this patient about three years ago. Of course she was much discouraged, as at present. At the time there was no ulceration, but the patient had one small ulcer on the back of a finger, which

had taken a long time to heal; it now shows an excellent scar. I suggest curetting the backs of the hands and knuckles. They will require an extremely long time to heal, but it seems to me that the surgical treatment is probably the only treatment that will be effective. Several years ago it was a source of considerable surprise to me, when a patient with ulceration due to roentgenotherapy was treated surgically, to see the surgeon operate through the portions of irradiated tissue and obtain perfect healing. It had been my opinion that it was extremely unwise to cut through this degenerated tissue. I think that surgical intervention is indicated if the right hand is involved. If the left hand is affected intervention can be delayed.

BROOKLYN DERMATOLOGICAL SOCIETY

A. M. PERSKY, M.D., *Secretary*

April 18, 1932

B. B. BERKOWITZ, M.D., *Presiding*

A CASE FOR DIAGNOSIS (ANGIOMA SERPIGINOSUM?). Presented by DR. W. H. BEST.

W. E., a white woman aged 46, a nurse, had had a small, bean-sized, reddish discoloration over the center of the left cheek for about eight years, which had been treated with radium and ultraviolet irradiation. The lesion had disappeared, leaving a soft superficial scar about the size of a five cent piece. Six months prior to presentation, she noticed a purplish discoloration starting around the scar, which had spread by peripheral extension. A similar, small, split-pea-sized lesion was later noticed on the upper part of the left arm.

A large, purplish-red area involved almost the entire left cheek, extending to the alae of the nose. The patch gave the impression of being thickened in some parts, especially on the side of the nose. Considerable telangiectasia was scattered throughout the area, especially near the margins.

DISCUSSION

DR. J. SKEER: Aside from the diagnosis of sarcoid, I also thought of lupus erythematosus, even though the lesion in this case is inclined to be more on one side than the other. The lesion is slightly infiltrated, and it has enlarged capillaries. I did not notice any atrophy, but the mouths of the ducts are wide open. The possibility of nevus must also be taken into consideration.

DR. E. W. ABRAMOWITZ: I believe that the patient presents a vascular type of nevus. Extension is taking place on the left side of the neck where there are a few cayene-like spots. I favor the diagnosis of angioma serpiginosum, first described by Hutchinson and Crocker. I believe that the best treatment in this case would be the use of the cryocautery.

NONPIGMENTED SARCOMA? Presented by DR. A. WALZER.

B. P., a man, aged 37, married, a laborer, with nothing of importance in his past history, presented a condition that dated back twenty years when he received a kick on the nose by a horse. About ten years later he received another injury on the same place. In both instances the injuries had not given much trouble at the time, though they left scars.

About eight and one-half years prior to presentation, he noted the beginning of lesions on his nose, at the site of the previous injuries. The first or larger lesion began as a red area and gradually increased in size until about two years before

presentation when it ceased to grow. The lesions on the sides of the nose were of about two years' duration. They were all painless.

He presented on the upper part of the nose a dime-sized, elevated, infiltrated nodule. It was smooth, glistening, round and red. It was surmounted by many telangiectatic vessels and was movable with the skin. There were no scales. Near the right border of the lesion was a small erythematous, intracutaneous, infiltrated, sharply outlined lesion, painless and slightly elevated above the skin. On the left side of the nose, near the large central node was a pea-sized elevation, with the skin movable over it. It felt like an outgrowth of bone. It was sharply outlined and hard.

Two roentgenograms were negative.

DISCUSSION

DR. E. A. GAUVAIN: It seemed to me that the small lesion on the right side of the nose was very distinctly pigmented, while the others had no pigmentation. I should make a diagnosis of melanosarcoma. As to therapy, I think I should prefer to leave the lesions alone.

DR. J. SKEER: What symptoms caused Dr. Walzer to make the diagnosis of sarcoma? What does he base the diagnosis on?

DR. E. W. ABRAMOWITZ: In spite of the absence of the yellowish color, I am inclined to favor the diagnosis of xanthoma, in view of the negative roentgen indications and the slow development of the larger lesion. I would recommend a biopsy in this case, as I do not believe that it would be a harmful procedure.

DR. A. WALZER: The possible diagnoses in this case are sarcoid or sarcoma. I should strongly oppose a biopsy because of the danger of metastasis. I suggest treatment with radium.

DERMATITIS MEDICAMENTOSA (BROMINE). Presented by DR. A. WALZER.

P. S., a girl, aged 5 years, had never had any serious illnesses. An eruption, which was noticed on the face about ten days previous to presentation, consisted of fungating pustular and nodular lesions, scattered and in grouped patches over the face, the legs and the thighs. On the extremities the eruption simulated acne. The patient had taken 6 grains (0.39 Gm.) of sodium bromide daily for six weeks.

A CASE FOR DIAGNOSIS (MILIARY LUPUS?). Presented by DR. J. SKEER.

B. O., a woman, aged 28, born in Russia, married, entered the Brooklyn Jewish Hospital complaining of a small patch on the lower jaw of five years' duration. She had applied numerous salves and lotions, with indifferent success. At times, the eruption would be lighter, but it had never entirely disappeared.

Examination showed several yellow, waxy, raised, cystic lesions situated on both lower lids and extending onto the face, which appeared xanthematous. On the malar eminences and the anterior surface of the face extending to the lower mandible and chin were numerous discrete, pinhead-sized and slightly larger, cystic lesions, varying from waxy yellow to deep red. There were numerous tiny pitted scars. Examination with the diascope showed apple-jelly nodules.

The Wassermann and Kahn tests of the blood were negative.

DISCUSSION

DR. E. W. ABRAMOWITZ: I believe that this patient has adenoma sebaceum of the vascular type (Pringle). She also has small, waxy lesions on the lower eyelids that may be classed in the group of benign cystic epithelioma.

DERMATITIS MEDICAMENTOSA? Presented by DR. M. J. CANTOR.

L. B., a woman, aged 52, had had influenza two weeks before presentation, for which she took "aspirin." One week later, an erythematous papular eruption

appeared on the face and on the backs of the hands. Some of the papules were annular in arrangement and the size of a pea or a little larger. The mucous membrane of the lips showed some scattered erythematous points.

DISCUSSION

DR. E. W. ABRAMOWITZ: There are many cases of drug eruptions reported in the literature in which there is a strong element of doubt, not only as to what drug is responsible for the eruption, but whether or not the eruption is due to a drug. This patient evidently took at least two different drugs, either of which might have produced the lesions. It is more probable, however, that some other toxic agent than drugs is responsible for this eruption. In any case, the patient should receive a test dose of either "aspirin" or phenolphthalein to see which drugs she reacts to, if to either. While it is not possible to exclude a drug rash absolutely by such a test, yet it would be of great help.

DR. L. CHARGIN: Supposing that the patient did not give a history of having taken phenolphthalein and "aspirin," would any one hesitate to call this condition erythema multiforme? The distribution of the eruption on the forearms and lips fits in fairly well with the diagnosis.

DR. A. WALZER: This is not erythema multiforme. The papules of multiform erythema extend peripherally and produce annular lesions. In this case, the annular lesions are not produced by the progress of individual lesions, but by the grouping of them. This patient had groups of erythematous points, many of which were arranged in annular formation. I saw this case for the first time tonight. The condition is unquestionably a toxic eruption, but it is difficult to give it a name. I think that it is going to be extremely difficult to prove that "aspirin" caused the eruption. For instance, if a person has had an urticaria due to fish or any specific offending substance, it is possible to bring back the urticaria right after it has disappeared by the ingestion of the causative substance or even a nonspecific substance. In other words, it is possible to reproduce wheals by a nonspecific substance like "aspirin"; so the mere administration of "aspirin" in an urticarial subject whose rash has just disappeared and a consequent exacerbation is not proof that the "aspirin" was the cause of the original urticaria.

It is possible that an infection was the cause of the rash or that any of the other drugs that she took might have been the offending factor. I should call this condition a toxic erythema simulating erythema multiforme.

DETROIT DERMATOLOGICAL SOCIETY

H. J. PARKHURST, M.D., *Reporter*

Regular Meeting, April 19, 1932

CLAUD W. BEHN, M.D., *Presiding*

A CASE FOR DIAGNOSIS (LUPUS ERYTHEMATOSUS?). Presented by DR. LOREN W. SHAFFER.

Mrs. S. L., aged 40, who had been observed first on Dec. 10, 1930, had a split-pea-sized erythematous, scaling lesion, elevated and sharply outlined, near the external canthus of the left eye. There had been a tenacious scale. The lesion had entirely disappeared after application of solid carbon dioxide. The patient returned on Feb. 23, 1932, because of pain and swelling in the right ear, a cellulitis associated with numerous active comedones and infected sebaceous cysts. The involvement had been limited to the inner surface of the ear, around the external auditory canal. A similar involvement behind the right ear was smaller in area, with comedones but no cellulitis or cysts. Acne, surgical procedures, wet

dressings and the application of a 3 per cent ammoniated mercurial ointment had been followed by involution of the cellulitis and chondritis. Comedones and small cysts had persisted, with a sharply defined dermatitis having the characteristics of lupus erythematosus in some areas, spreading onto the face immediately in front of the ear in the parotid area. A dime-sized patch of the same condition was present behind the left ear. The Wassermann reaction was negative. The teeth and sinuses showed possible focal infection. The mucosae were unaffected, but a patch was said to have been present on the left side of the lower lip several years previously, which had faded rapidly under treatment with roentgen rays.

DISCUSSION

DR. ROBERT C. JAMIESON: I saw this patient several years ago with a single lesion on the mucocutaneous border of the lower lip, which disappeared after the administration of one-fourth unit of roentgen rays, and never recurred. I had thought that the condition was lichen planus, but now lupus erythematosus seems a better diagnosis.

DR. HARTHER L. KEIM: The condition suggests an unusual form of lupus erythematosus.

A CASE FOR DIAGNOSIS. Presented by DR. ROBERT C. JAMIESON.

Mrs. McA., aged 39, born in Scotland, who was in good general health, presented a dermatitis of the face and neck, of nine months' duration. There had been a similar outbreak in 1928, lasting a month, but no other previous illness of consequence. The eruption, of nine months' duration, consisted of poorly defined erythematous areas on the upper anterior portion of each cheek and on the nose, in the eyebrows and on the lower anterior part of the neck. The scaling of the lesions in the eyebrows was pronounced, while the other areas showed little scale but presented an accentuated dilatation of the follicular mouths with some plugging. On the arms and on the legs there were many indefinite excoriated areas. Pruritus was present in all of the affected areas, but especially on the extremities. General and laboratory examinations had given negative results. Some areas had improved under treatment with local applications.

DISCUSSION

DR. ARTHUR E. SCHILLER: This dry, scaling dermatitis has the distribution of allergic eczema.

DR. OLIN J. CAMERON: The patient stated that her sister is subject to asthma.

DR. HOWARD J. PARKHURST: This case resembles some of the eczemas recently described by Stokes, with the seborrheic and allergic elements apparently predominating in a complex picture. Such cases tend to recur and resist treatment.

LUPUS ERYTHEMATOSUS. Presented by DR. ARTHUR E. SCHILLER.

T. C., a housewife, stated that two years previously she had first noticed a small red patch on the nose and one on the cheek. Later one had appeared on the left forearm. The patient complained of itching during the day. Before the appearance of the facial lesions, the patient had noticed that her hair was coming out in small areas on the right side of the scalp. At the time of presentation there were alopecia, pigmentation, atrophy, telangiectasia and the general appearance of roentgen dermatitis. There was a large coin-sized patch on the left side of the nose and a medium coin-sized lesion on the right cheek. Both were slightly elevated, pink, sharply circumscribed, dry and scaling, with telangiectases, follicular plugging and an infiltrated base. The Wassermann reaction was negative, and the urinalysis and blood count gave normal results. Sixteen injections of bismuth salicylate, in doses of 1 cc., had been given.

DISCUSSION

DR. ARTHUR E. SCHILLER: The bismuth has been injected twice weekly, and 50 per cent of the lesions have disappeared.

DR. GEORGE W. HYDE: The patient had received two courses of therapy with a gold compound previously, without improvement.

DR. ROBERT C. JAMIESON: Does the administration of bismuth after a gold preparation give better results than bismuth alone?

DR. ARTHUR E. SCHILLER: We have observed some favorable results following the administration of sodium thiosulphate and sodium iodide after gold compounds, but we do not know about bismuth.

A CASE FOR DIAGNOSIS. Presented by DR. ARTHUR E. SCHILLER.

A man, aged 32, had been admitted to the hospital a month previously with a streptococcic infection of the throat. Three days later a severely itching erythematous maculosquamous eruption had developed on the buttocks, and in a few days it had spread to the legs and trunk, having become progressively worse. The macules ranged in size from that of a pinhead to that of a small coin, and were confluent in certain areas, especially over the buttocks.

DISCUSSION

DR. GEORGE H. BELOTE: On superficial examination one might think of psoriasis. The lack of infiltration excludes the possibility of a secondary syphilid. The condition seems to be parapsoriasis rather than psoriasis.

DR. LOREN W. SHAFFER: The condition looks like parapsoriasis, but only the response to treatment will decide whether or not it is psoriasis.

DR. WILLIAM G. WANDER: Seborrheic dermatitis is another possibility. Lesions of the scalp have been present, but they have cleared up.

DR. ROBERT C. JAMIESON: The patch on the buttocks is rather large, and the color suggests tinea versicolor.

DR. HOWARD J. PARKHURST: I felt that the case was one of psoriasis. A biopsy should settle the question.

A CASE FOR DIAGNOSIS: RAYNAUD'S OR BUERGER'S DISEASE (?). Presented by DR. HOWARD J. PARKHURST.

W. H. N., a salesman, aged 48, had done considerable driving in connection with his work, and had vague recollections of having frozen the tip of the middle finger of the right hand two or three years previously. On cold days while he was driving, at times he had seen the finger turn white. There had been painful sensations in the finger-tip for over a year. The patient smoked twenty-five or thirty cigarets daily.

There was scarring, with apparent loss of tissue and a small central crust, over the entire tip of the finger, extending beneath the nail. On the dorsum, the base of the nail was red and swollen, and the proximal part of the nail was dystrophic and crumbling. There was some tenderness, but the patient complained chiefly of almost constant pain. There had also been occasional pains in the tip of the fourth finger of the right hand, but not in any of the others. The toes were not affected.

DISCUSSION

DR. ARTHUR E. SCHILLER: Since there are no apparent circulatory changes elsewhere, this condition is typical of neither Buerger's nor Raynaud's disease.

DR. LOREN W. SHAFFER: Pressure on a nerve trunk by a cervical rib may be a factor.

DR. ROBERT C. JAMIESON: Like Dr. Schiller, I can hardly reconcile a diagnosis of Buerger's or Raynaud's disease with the condition on this finger. It may have followed freezing.

DR. EMMETT C. TROXELL: I have a patient whose fingers blanched when chilled. He was a heavy smoker, and the condition cleared up when he stopped smoking.

DR. HARTHER L. KEIM: I agree with Dr. Jamieson, and consider the condition probably due to local injury.

DR. ARTHUR E. SCHILLER: I suggest a trial of medical diathermy in this case.

DR. HOWARD J. PARKHURST: I admit that the easiest diagnosis is to attribute this condition to frostbite, but the patient does not know whether the finger was ever frozen. Furthermore, I cannot reconcile the history of blanching and the almost constant severe pain with this diagnosis.

PSORIASIS DEVELOPING IN AREAS OF VITILIGO. Presented by DR. EMMETT C. TROXELL.

C. L., a schoolboy, aged 12, had had the usual diseases of childhood. The general health was good. The areas of vitiligo had first begun to appear on the legs about two years previous to presentation, and this condition had progressed steadily. About a year before the time of presentation, there had appeared in some of the areas of vitiligo slightly elevated, infiltrated papules, sharply outlined and covered with silvery scales. Since that time, typical psoriasis lesions had developed on the scalp and other parts of the body free from vitiligo.

SYPHILIS OF THE MANUBRIUM, MEDIASTINUM AND ESOPHAGUS. Presented by DR. JOHN H. BESANCON.

Mrs. F. B., aged 26, had first noticed difficulty in breathing and swallowing about Sept. 15, 1931. This had become progressively worse, together with a smothering sensation on lying down and regurgitation after eating. For ten months the sternum had been painful and more prominent than usual. Roentgen studies showed the presence of a definite destructive process involving the manubrium and sternal ends of the clavicles, especially the right clavicle. There was also an obstructive lesion involving the middle and lower thirds of the esophagus, apparently the same process, but there were no signs of parenchymal involvement of either lung. There was no definite history of syphilis, but there had been one miscarriage, and the Wassermann reaction of the blood was positive. The condition had improved definitely after the administration of ten doses of mercurial salts, ten of bismuth and six of neoarsphenamine, and there had been some recurrence during a rest period.

DISCUSSION

DR. CLYDE K. HASLEY: In cases of cancer the cardiac end of the esophagus is constricted, rather than the middle third as in the present case.

MORPHEA. Presented by DR. JOHN H. BESANCON.

M. K., a girl, aged 19, presented several sharply outlined, atrophic lardaceous patches on the nose and on the extensor surfaces of the arms, ranging in color from ivory to violaceous. They had appeared seven months previously, following sunburn. The tonsils were large and septic. There was a marked scoliosis, of four years' duration, in the scapular region, which had appeared without pain. One brother had a "chronic abscess" of the leg.

DISCUSSION

DR. HARTHER L. KEIM: The lesions on the arms seemed to be morphea.

DR. ARTHUR E. SCHILLER: The distribution of the lesions on the nose and the follicular plugging in the patches on the arms suggested lupus erythematosus.

DR. GEORGE VAN RHEE: I felt that the patches on the arms were morphea.

A Case for Diagnosis: Pityriasis Rubra Pilaris (?). Presented by Dr. Emmett C. Troxell.

In V. P., a schoolgirl, aged 14, erythematous scaling patches had first developed at the age of 3 years, after the incision of an abscessed lymph node. The condition had progressed steadily, but had always been much worse in the spring. The patches were well defined, pinkish to purplish, with slight atrophy and light adherent scales; on the chin and neck, and just anterior to the left ear they were thickly crusted and verrucous. The Wassermann reaction was negative. This case had been presented before the society in 1927 by Dr. Schiller.

DISCUSSION

Dr. Harther L. Keim: The follicular plugging was too pronounced for keratosis pilaris. It appeared in the scalp, axillae, brows and genitocrural regions. It is probably a case of pityriasis rubra pilaris.

Dr. Loren W. Shaffer: I was interested in this relatively recent appearance of pityriasis rubra pilaris, with superimposed vegetating dermatitis. It may have begun with diathetic eczema (Stokes). The patient still shows eczematoid patches.

A Case for Diagnosis. Presented by Dr. Loren W. Shaffer.

E. L. O., a man, aged 38, had been under Dr. Shaffer's care for typical psoriasis with recurrences in the winter since 1926. The hands, especially the knuckles, had nearly always shared in these recurrences. There had been an attack of pityriasis rosea in 1928. The general health was good. The patient had returned in March, 1932, with an apparently typical recurrence of psoriasis involving the extensor surfaces of the fingers and the elbows. On March 16, a mild vesicular eczematoid dermatophytosis had been found on the soles, and on March 29 the patient had complained of a pruritic eruption on the arms. This condition was a grouped follicular eruption, resistant to roentgen rays and to antipruritic local applications. Grouped patches had coalesced to form a diffuse keratopapulofollicular eruption on the forearms, and follicular plugging had appeared on the dorsum of the fingers.

DISCUSSION

Dr. George Van Rhee: There are lesions suggesting pityriasis rubra pilaris on the fingers and forearms.

Dr. Harther L. Keim: The condition may be typical of pityriasis rubra pilaris and later become a lymphoblastoma.

PITTSBURGH DERMATOLOGICAL SOCIETY

Claude B. Norris, M.D., *Secretary*

Regular Meeting, April 21, 1932

James H. Fiscus, M.D., *President, in the Chair*

A Case for Diagnosis. Presented by Dr. H. T. Phillips and Dr. W. J. Morginson.

F. S., a white man, aged 49, unemployed, in August, 1931, noticed small, light reddish-brown, freckle-like macules on the medial surface of the right leg just above the ankle. These enlarged and spread until, in about two weeks, the extent seen at presentation was attained. When presented, the patient showed many light reddish-brown macules, from 0.2 to 2 cm. in diameter, over the right leg from the ankle to the hip. There was no definite grouping. The color was uniformly

distributed, with no central clearing. A few petechiae were scattered in and between the macules. There were no subjective symptoms. No part of the body was involved except the right leg.

DISCUSSION

DR. W. H. GUY: I felt that the condition was a pigmentation following lichen, particularly when the white lines on the right buccal mucosa were seen.

LICHEN NITIDUS. Presented by DR. F. P. KENNEY.

Miss B. B., aged 11, presented over the right leg above the knee many small, flat, shiny, polygonal or round papules, of the color of the surrounding skin or of a slightly dusky hue, varying in size from that of a pinpoint to that of a pinhead. They were closely packed together, but they were always discrete, never becoming confluent and rarely causing itching. The patient first noticed this condition two and one-half years before presentation.

The patient also presented enlargement of the fingers and marked development of the musculature of the leg, suggesting some glandular disturbance. In early infancy, she had a rather stormy time and was always very ill. She was undeveloped and undernourished, and she had internal strabismus of the right eye. When very young, she had convulsions, as many as two or three in one day. She would become stiff and froth at the mouth. She had measles at 7 and mumps at 9 years of age. The child always had been nervous and apprehensive. She suffered greatly with severe attacks of vomiting. Her mother and her mother's sister have dysfunction of the thyroid gland. The Wassermann and Kahn tests of the blood were negative. Tuberculin tests were negative. Biopsy was not performed.

DISCUSSION

DR. W. H. GUY: I agreed with the diagnosis. The areas usually involved by keratosis pilaris were normal. The individual lesions were pinhead-sized, non-inflammatory, shining, flat papules.

IDIOPATHIC MACULAR ATROPHY. Presented by DR. J. H. FISCUS.

V. M., a girl, aged 8 years, born in the United States of Italian parents, was brought to my office on April 19, 1932, by her family physician, who stated that the lesions were first noted by him when the girl was 3 years of age.

Over the neck, shoulders, upper part of the arms and back were scattered numerous depressed, discrete, circular and oval macules, varying from 3 mm. to 2 cm. in diameter. Around the root of the neck they were so numerous that they seemed almost to coalesce. There were also a few lesions on the left thigh and over the popliteal space. The color varied; some were pink, some, violaceous, and some, that of normal skin. There was distinct atrophy in these lesions. The family physician stated that at times the lesions were pigmented. There were no subjective symptoms. The child is the daughter of apparently healthy, normal parents, between whom consanguinity does not exist. Since the onset of the present condition, the patient has had varicella, whooping cough and mumps, which were the only acute infectious diseases she has had.

This case was studied by Dr. Edward F. Corson, and the patient was shown at the March meeting of the Philadelphia Dermatological Society.

In a communication, Dr. Corson stated that the members present at the Philadelphia Dermatological Society meeting agreed that this was a case of macular atrophy, presumably from some internal cause. The patient was studied for several weeks at the Jefferson Hospital, and some of the consultants thought that she might have a pathologic condition of the pituitary, although the roentgen ray showed a normal sella turcica. The rate of basal metabolism varied from plus 41 to plus 15. Blood tests, including the Wassermann, were negative. The patient was kept isolated on account of a vaginitis. The sections showed no yellow elastic tissue and seemed to conform to the usual observations in the clinical diagnosis mentioned.

DISCUSSION

DR. STANLEY CRAWFORD: I considered this a typical case of macular atrophy, probably of the Jadassohn type. The obesity of the child and the mammary development pointed to some endocrine dysfunction. There was a marked squaring of the arrangement of the teeth in the upper jaw which could be considered a stigma of syphilis. I suggested that the case be regarded as one of metasyphilis, disturbing the glands of internal secretion, and I recommended that the child be placed on polyglandular therapy, exclusive of thyroid, since the basal metabolism was increased, along with daily mercurial rubs, for a possible syphilitic condition.

DR. J. H. FISCUS: I believed that this condition was due to an endocrine disturbance despite the negative findings. The patient was a precocious child, leading her fellow students at school. She will be interesting to watch, especially at the age of puberty. At first inspection the two lesions over the right scapula appeared to be an early neurofibromatosis.

NEW YORK DERMATOLOGICAL SOCIETY

EDWARD R. MALONEY, M.D., *Secretary*

Regular Meeting, April 26, 1932

J. FRANK FRASER, M.D., *Chairman, Presiding*

SCROFULODERMA. Presented by DR. GEORGE M. MACKEE.

L. M., aged 7 years, born in the United States of Jewish parents, from the clinic of the New York Post-Graduate Hospital, was presented because of tender swelling and ulceration involving the front and sides of the neck. The patient had had measles, whooping cough and chickenpox. Tonsillectomy had been performed five and one-half years previous to presentation. Diphtheria antitoxin had been given four years prior to presentation. In July, 1931, sore throat developed, with slight fever. Several days later lymphadenitis developed on the left side of the neck. A diagnosis of affected lymph glands was made, and the lesion was incised. Soon afterward, an abscess developed on the right side near the middle of the neck. This was similarly incised. Since then, several persistent sinuses had remained, with a seropurulent discharge. Several physicians saw the patient, and diagnoses of scrofuloderma, actinomycosis and blastomycosis were considered. Repeated smears from the discharge were negative for fungi and tuberculosis bacilli. Tuberculin tests, with old tuberculin and human, bovine and avian tuberculin were all negative. Wassermann tests were repeatedly negative. Inoculations into guinea-pigs were negative for tuberculosis. Roentgen examination of the sinuses, teeth and cervical spine did not show any abnormality. Clinical examination and fluoroscopic study of the chest for possible foci of tuberculosis failed to reveal any tuberculous infection. Cultures from the lesions of the neck were negative. The average blood count showed essentially: polymorphonuclears, 59.5 per cent; small lymphocytes, 38.5 per cent; large lymphocytes, 1.5 per cent; basophils, 0.5 per cent; red cells, 5,000,000, and hemoglobin, 80 per cent; the total white blood corpuscles numbered 9,400.

Sodium iodide by mouth was not effective. With a regimen of a high vitamin diet, cod liver oil, viosterol and daily applications of ultraviolet rays to the entire body, definite improvement was noted. More recently a nearly salt-free diet, based on the Gerson-Sauerbruch method, had been used. The patient had received a series of roentgen treatments to the areas on the neck, with some improvement. Various local medicaments had been applied and various antiseptic solutions used.

The patient was well developed and well nourished, and the results of the physical examination were essentially negative. Involving most of the anterior and

lateral surfaces of the neck were several raised exuberant lesions composed of pale pink fungating-like granulation tissue. There was a profuse serosanguinolent discharge. The lesions were raised approximately from 0.5 to 1 cm. above the surface, with an irregular outline, but were sharply defined. On the left side under the mandible was a swelling the size of a hen's egg. Many small discharging sinuses were present. Careful examination of the mouth revealed no abnormality.

DISCUSSION

DR. E. F. TRAUB: Dr. MacKee has investigated this case from every angle, and his description of its progress, coupled with the present clinical appearance, confirms the tentative diagnosis that he has made. A tuberculous process is the most likely condition to be found in a young patient with discharging ulcerative lesions located on the neck such as those in the present case.

DR. FRED WISE: I suggest that an examination be made for the presence of the diphtheria bacillus; that should be considered in the presence of so many negative findings. The literature contains a number of similar cases, which have been proved to be instances of diphtheritic infection.

DR. W. J. HIGHMAN: I suggest that scrapings from the sinuses be examined and also pus from the lesion.

SUBCUTANEOUS FAT NECROSIS OF THE NEW-BORN. Presented by DR. HOWARD FOX.

This article will be published in full in a latter issue of the ARCHIVES.

A CASE FOR DIAGNOSIS (DARIER'S DISEASE?). Presented by DR. J. F. FRASER.

G. M., a woman, aged 29, presented a discrete, follicular, dark brown eruption on the back, neck, upper portion of the chest and forearms, of three months' duration. The patient stated that she had had a similar attack three years previously, which disappeared in a short time. No biopsy had yet been made. She had received five one-quarter unit doses of roentgen rays (about 70 roentgens), without apparent beneficial results.

She was presented as having a possible case of Darier's disease.

A CASE FOR DIAGNOSIS (PHENOLPHTHALEIN ERUPTION OR PARAPSORIASIS?). Presented by DR. HOWARD FOX.

E. B., a girl, aged 19, a stenographer, had first noticed the eruption three years previous to presentation. It was generalized and symmetrically situated on the trunk and extremities. The lesions were discrete and appeared as bluish-brown macules, varying from the size of a pea to that of a nickel, and a few slightly scaly, reddish spots. There was itching, but no scratch marks were visible. The patient had taken drugs containing phenolphthalein, but gave no history of exacerbation after their ingestion. Histologic examination showed chronic inflammatory tissue. A stain for mast cells was negative.

DISCUSSION

DR. FRED WISE: I saw the patient at the clinic of the New York Post-Graduate Hospital on several occasions, and thought that she had parapsoriasis, but I did not see the pigmentation presented tonight. The diagnosis made after a number of observations was parapsoriasis.

HEMIATROPHIA FACIALIS. Presented by DR. F. C. COMBES.

K. C., a woman, aged 23, born in the United States, gave a history of the appearance of several small infiltrated spots of morphea on the right side of the face about eighteen years previous to presentation, which within six months had

atrophied and extended to include the entire right side of the face. The condition had remained unchanged. The area involved was, roughly, the distribution of the seventh cranial nerve.

Examination showed a definite deformity due to atrophy of the skin and subcutaneous tissue. Muscular movement and sensation were unaffected.

MELANOMA. Presented by DR. H. H. WHITEHOUSE.

D. H., a woman, aged 20, four or five years previous to presentation had noticed the development of what she thought was a "liver patch" on the lower part of the right cheek near the chin, with fine hairs in it, which she pulled. Three years prior to presentation, small brownish papules appeared over part of this area; a year later they became bluish-black, growing darker steadily. Three months before presentation she consulted the radium department of the Bellevue Hospital.

An elliptic area, 1 by ¾ inches (2.5 by 1.9 cm.), was slightly defined and sepia-colored, with six or seven melanotic, soft bluish-black lesions, varying in size from that of a pinhead to ⅛ inch (0.3 cm.) in diameter; besides these there were numerous pinpoint bluish foci, looking like tattoo marks. These showed well under the diascope, and were scattered over the pigmented area.

The case was presented with a request for therapeutic suggestions.

DISCUSSION

DR. GEORGE M. MACKEE: It is natural that every one should hesitate to suggest a therapeutic measure in a case of this kind, but something has to be done —either no treatment should be given or the therapeutic measure that seems best should be employed. We all agree as to the diagnosis of melanoma. The case presents a real problem. The lesion is not sharply marginated, and therefore one would not know where to make a line of incision. I favor using radium. I recall two patients with lesions somewhat similar who recovered and remained well for from fifteen to twenty years after radium treatment. Feeling that no harm can be done, I should give radium a fair trial. If radium does not do any good, it will then be a question whether to leave the lesion alone or to excise it. If the condition is progressing it should not be let alone, for if let alone the patient will die, and there is at least a chance that treatment will be successful. If the lesion is active, I should favor a wide excision.

I prefer the gamma rays for radium treatment, with heavy filtration in the shape of a radium pack, many thousand milligram or millicurie hours being used.

DR. E. F. TRAUB: There is another problem to be considered in this case. I believe that Dr. Whitehouse called attention to the presence of nodes in the neck, on the side of the present lesion. If this is the case, the advisability of dissecting the nodes of the neck should be considered, regardless of the type of treatment given to the local lesions.

DR. W. J. HIGHMAN: When did the last new lesion appear?

DR. H. H. WHITEHOUSE: I do not know. The patient stated that for the last two years the lesions have been forming slowly.

DR. W. J. HIGHMAN: That is a very important point. If there has been no sign of active or new lesions within a year, that point would be a rough basis for forming judgment. The patient is a young girl, and saving her life at the cost of her appearance would not be welcome to her. By some means an estimate should be formed of the degree of activity. If the lesion is inactive, it would be fair to postpone treatment.

DR. H. H. WHITEHOUSE: My own opinion was that radium would be the preferred method of treatment. I do not approve of destructive measures by surgical intervention or otherwise from what I have seen of metastases. Some years ago I had a patient with a melanoma on the forehead into which she accidentally stuck a hairpin. It was treated with heavy doses of radium, and the

lesion healed, but she finally died of cancer of the brain. I think that Dr. Traub's suggestion is a good one; if there is an enlarged lymph node, remove it in addition to using radium.

FOLLICULITIS DECALVANS ET ATROPHICANS. Presented by DR. P. E. BECHET.

W. J. A., a man, aged 43, stated that the lesions on the scalp had been present for five and one-half years. When he was first seen in September, 1928, the scalp was covered with bald patches of irregular shapes and various sizes, with smooth, shiny, scarred surfaces. There were projecting keratotic plugs at the periphery of many of the patches, seemingly most numerous where the disease was active; they could be expressed with a comedo extractor. There were scarcely any inflammatory symptoms. The case had previously been presented before the Society on Oct. 23, 1928 (ARCH. DERMAT. & SYPH. **19**:512 [March] 1929).

After an absence of three years, the patient again applied for treatment. The follicular plugs had disappeared, and the bald areas had increased in size and extent until the entire vertex of the scalp was involved. The case was shown because of the grave aggravation of this intractable disease, despite treatment, and for therapeutic suggestions.

In the discussion of the case when previously presented, Dr. Howard Fox stated that he had never seen the slightest benefit from treatment in this type of disease; this opinion was shared by Dr. MacKee. The late Dr. Clark recommended an ointment containing 20 per cent of ammoniated mercury and 8 per cent of salicylic acid. This seemed of some benefit at the time, though the result was not permanent. The roentgen rays did not seem to have the slightest effect.

ANGIOMA SERPIGINOSUM. Presented by DR. FRED WISE.

A girl, aged 11, was first seen the afternoon of presentation at the skin clinic of the New York Post-Graduate Hospital, with a history of an attack of measles four years previously, but no other serious illness. Shortly after she had the measles, a group of telangiectatic lesions appeared on the thigh; some of these disappeared, leaving slight pigmentation, but new areas were constantly appearing.

DISCUSSION

DR. H. H. WHITEHOUSE: I agree with the diagnosis.

DR. GEORGE M. MACKEE: I am inclined to agree with the diagnosis. It recalls Dr. Fox's case, in which, as I remember, the patient presented a localized form of the disease. I hope that Dr. Wise will make a histologic study of the case.

DR. HOWARD FOX: My cases were rather similar to this one, and were slowly progressive. They did, however, show little annular lesions, which are not present in this case. Essentially, the condition was probably the same.

DR. FRED WISE: There are only two features that agree with Hutchinson's description: The lesion is progressive and is slowly spreading lower down to the leg, and the cayenne pepper spots are pronounced. The whole lesion is made up of these spots, and that is the point to which Hutchinson called special attention.

A CASE FOR DIAGNOSIS (LUPUS ERYTHEMATOSUS OR SARCOID?). Presented by DR. GEORGE M. MACKEE.

J. D. R., a man, aged 25, a shipping clerk, from the clinic of the New York Post-Graduate Hospital, presented a condition that had begun four months previously with an acute illness. Painful erysipelas-like lesions on the face and swollen finger joints appeared ten days later.

The patient presented on the face multiple, faintly erythematous, sharply defined, atrophic areas, varying in size from that of a dime to that of a silver dollar. The surfaces of these areas were composed of scar tissue somewhat

depressed and rough in contour. The area of skin behind the ears, extending into the scalp, showed erythema, atrophy and adherent scales. Both cheeks presented several blotchy erythematous areas. In these areas were several pea-sized depressed lesions. Over the lateral aspects of both arms and the adjacent portion of the shoulders were numerous grouped lesions, consisting of dull red nodules and depressed scars. There was slight scaling over these areas. The forearms were free from lesions, while both wrists and hands showed similar areas varying in size from that of a pea to that of a dime. The fingers showed a spindle-shaped enlargement of the joints. The spleen was of normal size, but the liver was enlarged, and there was generalized adenopathy. One internist had made a diagnosis of Still's disease.

NOTE.—Subsequent to presentation two nodules were removed from the arm. The pathologic histology was that of a chronic inflammation. It was impossible to make a diagnosis.

DISCUSSION

DR. W. J. HIGHMAN: In spite of the fact that the lesion on the scalp looks like lupus erythematosus, I believe, from the necrotic scars on the arms, that syphilis must be ruled out.

DR. H. H. WHITEHOUSE: The patient has lesions on the fingers that clinically appear to be necrotic granuloma. By careful questioning, I found that the depressed scars caused by the nodules on the upper part of the arms were not caused by ulceration; there was no pus at any time. So I would consider the whole eruption as one of necrotic granuloma or papular necrotic tuberculid.

DR. HOWARD FOX: I cannot agree with Dr. Highman regarding syphilis in this case. The eruption was bilateral; there was no special grouping, and the scarring was of a deforming type not seen in syphilis. The lesion on the scalp has the appearance of lupus erythematosus, while those on the arms, I think, should be designated as scrofuloderma of the type that has been called scrofulous gumma, occurring in the skin independent of any relationship to tuberculous glands or bones. Doubtless some tuberculous focus is responsible for all these cutaneous manifestations.

DR. E. F. TRAUB: This patient presents a very interesting dermatologic syndrome, but the only interpretation that can be given at this time is that the cutaneous lesions are unquestionably merely a manifestation of a general disease. Some of the lesions on the skin, however, are deep and pitted, suggestive of an ulcerative process rather than of those usually following lupus erythematosus. The thickening of the fingers and a flat, sharply outlined lesion on the right cheek suggest scleroderma.

DR. FRED WISE: If roentgenograms are taken of the bones of the extremities and show multilocular cysts, the diagnosis of sarcoid would receive strong support.

DR. GEORGE M. MACKEE: The patient has been studied to some extent, but not especially from a dermatologic standpoint. The general medical picture concerns mostly the diagnosis of Still's disease, and that complicates matters a little, for it may account for the condition of the hands; but from the purely dermatologic standpoint it would seem that the patient has a tuberculous process of some kind. Syphilis has not been definitely ruled out. The serologic tests of the blood are negative. One might think that the lesions on the hands are papulonecrotic tuberculid. Of course, the conditions that Dr. Traub mentioned make one think of scleroderma.

GLOSSITIS RHOMBICA MEDIANA. Presented by DR. E. F. TRAUB.

M. F., aged 49, born in the United States, first noticed a thickening and swelling of the central posterior part of the tongue about four weeks previous to presentation, although, obviously, he must have had the condition for a much longer period. The eruption consisted of several nodular ridges with deep folds or clefts between, and not one solid patch. The Wassermann test was negative. No biopsy had been performed.

DISCUSSION

DR. FRED WISE: Is it not true that the typical lesions are lozenge-shaped?

DR. JOHN E. LANE: The typical ones are lozenge-shaped, but not all. Occasionally, they have only one or two nodules.

A CASE FOR DIAGNOSIS (MULTIPLE BENIGN CYSTIC EPITHELIOMA?). Presented by DR. E. F. TRAUB.

B. J., an Italian housewife, aged 35, presented on the face an eruption which had been present for six years. The family history was negative for any similar eruption. Scattered over the face, but most numerous over the cheeks and about the nose and the upper lip, were many papules and small nodules of a waxy, translucent character. Some of the lesions were discrete, and others seemed to run together forming larger lesions, though possibly the larger lesions may have been formed by a peculiar extension of some of the original papules. There was very little inflammatory reaction about the base of the lesions, but there was slight evidence of telangiectasia. Several of the lesions about the nasolabial angles seemed to have taken on a distinct growth, and suggested the rolled border seen in basal cell epithelioma. The biopsy specimen taken from a lesion at the nasolabial junction revealed a basal cell epithelioma arising from the pilosebaceous apparatus.

DISCUSSION

DR. W. J. HIGHMAN: This is a very interesting case. Under the microscope the picture is basal cell epithelioma, and the epitheliomatous tissue can be seen springing from the wall of the sebaceous follicle as it joins the hair follicle. The case is worth studying serially to determine the topography of the lesions and to find the actual point of starting. Clinically, moreover, while I might have thought of basal cell epithelioma, the condition certainly is not multiple benign cystic epithelioma. I think that Dr. Traub has presented a new or rare condition.

DR. FRED WISE: I think that the diagnosis is multiple benign cystic epithelioma.

DR. HOWARD FOX: That is my idea of the condition that has been called benign cystic epithelioma. It is evidently benign and should be classed as a congenital abnormality.

DR. GEORGE M. MACKEE: I cannot agree with the clinical interpretation that has been expressed. My conception of benign cystic epithelioma is different. This case has not the long duration usual in that disease. Many of the nodules are too much infiltrated to be benign cystic epithelioma. Histologic examination shows basal cell epithelioma springing from the walls of the follicles. I am of the opinion that several of these nodules will show the same picture, and I think that Dr. Traub has given us a unique clinical presentation of basal cell epithelioma.

DR. W. J. HIGHMAN: The histologic appearance of benign cystic epithelioma is cystic and not epitheliomatous. It has a characteristic appearance. This lesion is not cystic under the microscope, and it is epitheliomatous; moreover, it is a basal cell epithelioma. Clinically the condition does not suggest multiple benign cystic epithelioma.

DR. E. F. TRAUB: This patient was seen for the first time a week before presentation and the report on the biopsy was just given to me this afternoon. From the clinical appearance of the eruption, with the dozens of tiny, discrete, scattered lesions appearing in the patient at about the age of 30, no other diagnosis than the tentative one seemed to present itself. The fact that in one section we found an area showing basal cell epithelioma seems to me to be confirmatory evidence for this diagnosis rather than to rule it out, because it would be difficult to believe that in a woman of 30 about thirty or forty primary basal cell epitheliomas would suddenly develop. All the textbooks comment on the fact that not infrequently basal cell epitheliomas are found in patients with multiple benign cystic epithelioma.

DISSEMINATED LUPUS ERYTHEMATOSUS. Presented by DR. E. F. TRAUB.

M. M., a woman, aged 44, of Irish extraction, stated that an eruption was first noted on the dorsum of the right hand one year previous to presentation. For this she received six roentgen treatments, which caused the eruption to disappear for two months. The day after taking a dose of phenobarbital, an eruption appeared. This eruption also slowly disappeared. Another eruption began two months prior to presentation. Before visiting the dispensary, the patient had received one roentgen treatment and one injection of a gold compound, and had used an irritating ointment that burned the skin, in addition to taking some neurophosphate internally.

There was a widespread eruption over the face, particularly over the butterfly area of the nose and cheeks, and there were a few scattered patches on the chest, on the backs of the hands and on the forearms. The eruption was acutely inflamed and was covered with a loose, rather adherent scale. Since the patient had come under observation she had used nothing except a calamine lotion.

DISCUSSION

DR. HOWARD FOX: Did the patient have leukopenia, a condition emphasized by Mook? I recently had two cases at Bellevue Hospital that showed a diminution in the number of leukocytes, which bears out Dr. Mook's findings.

ICHTHYOSIS HYSTRIX WITH UNUSUAL DISTRIBUTION OF LESIONS. Presented by DR. EDWARD R. MALONEY.

A. M., a white boy, aged 8 years, born in New York, presented areas of ichthyosis which three years previously had developed in the following order: on the legs, umbilicus, sacrum, elbows, arms and posterior axillary regions. The ichthyotic skin was generalized over the legs and in patches over the other regions. The patient also had considerable hypertrichosis on both forearms.

His mother first noticed this change in the skin after he was struck by an automobile, on July 14, 1929. At that time he sustained bruises and lacerations all over the body, and at presentation still showed evidence of trauma on both legs. In addition to the cutaneous manifestations, he showed a curvature of the limbs and of the lower part of the spine, with a moderate postural deformity of the left hip and buttock. He also appeared to have a loss of muscular power in the left leg and arm.

DISCUSSION

DR. GEORGE M. MACKEE: I agree with Dr. Maloney's diagnosis.

BRONX DERMATOLOGICAL SOCIETY

THEODORE ROSENTHAL, M.D., *Secretary*

Regular Meeting, April 28, 1932

HENRY SILVER, M.D., *President, in the Chair*

A CASE FOR DIAGNOSIS: (ERYTHÈME ANNULAIRE CIRCINÉE; PREMYCOSIS FUNGOIDES; DERMATOPHYTOSIS). Presented by DR. LOUIS CHARGIN.

B. A., aged 44, a housewife, is the mother of a healthy child. There is nothing in her past history that seems to bear any relationship to her present ailment. She said that she had had no cutaneous eruptions previously. About two years ago, she noticed a patch on the left side of the abdomen, which was raised, round and reddish and itched. In the course of a few weeks it disappeared. Six months later there was a recurrence. The condition then appeared in crops;

there were lesions on the right side of the abdomen, the chest and the back. The patches were similar to the original eruption. Some of the lesions have disappeared spontaneously, but at no time has the patient been free from the eruption.

On examination she presented numerous patches which were erythematous, slightly raised, somewhat scaly and markedly pruriginous. There were many bizarre figures.

DISCUSSION

DR. F. DIASIO: I believe this to be a case of early mycosis fungoides because of the itching, the polymorphorus character of the lesions and the chronicity. I suggest a biopsy.

DR. S. FELDMAN: I cannot see any evidence of dermatophytosis. I think the case is one of mycosis fungoides. All cases of mycosis fungoides are such from the start. There is no such thing as premycosis that fails to materialize in time as mycosis fungoides. Hence it resolves itself that the early cases merely present problems of diagnosis.

DR. L. CHARGIN: Most cases with this type of eruption progress to mycosis fungoides, but not all. The evidence is against erythème annulaire circinée in this case. The latter condition develops from the papules or nodules that spread peripherally, often run together and are more exudative. Mycosis fungoides must be taken into consideration for the time. Although biopsy may be of aid, negative findings will not rule out mycosis fungoides.

ACRODERMATITIS CHRONICA ATROPHICANS WITH XANTHOMA-LIKE NODULES. Presented by DR. SAMUEL FELDMAN.

I. W., aged 57, a housewife, stated that about ten years ago she noticed reddening of the skin about the knees, which soon extended toward the thigh and down to the ankle. The same changes took place about the elbows and on the arms and forearms; the skin gradually became thinner and bluish. About four years later several small nodules appeared at the back of both elbows.

On examination, the skin in these areas was found to be very thin and cigaret paper-like. The color was bluish red, and the veins were prominently visible. On the back of each elbow there were a number of nodules, rather smaller than a pea, yellowish and very hard. The biopsy specimen of one of the nodules showed a marked increase in the number of collagenous bundles. There was a cellular infiltration in the upper and middle layers of the cutis, consisting mostly of fibroblasts, round cells and a few giant cells. The section stained with acid-orcein polychrome methylene blue revealed bluish stained elastic fibers (elacin). A section stained with sudan III revealed numerous cells in the cutis filled with droplets of fat.

Examination of the blood for cholesterol showed 250 mg. per cubic centimeter.

DISCUSSION

DR. L. CHARGIN: It is known that both acrodermatitis chronica atrophicans and scleroderma have at times nodular lesions in the atrophic areas. But xanthoma when it occurs in this disease is not part and parcel of the condition, because the xanthoma appears elsewhere than in the atrophic areas. Oppenheim stated that there is no relationship between the two. In this case, however, xanthoma is found in the acrodermatitis lesions. Usually the blood cholesterol is not increased in this type of xanthoma.

DR. F. DIASIO: I am not convinced that this condition is xanthoma. It is known that juxta-articular nodes are present in acrodermatitis chronica atrophicans.

DR. C. GREENHOUSE: Is it not possible that the xanthoma preceded the acrodermatitis chronica atrophicans?

DR. A. SAYER (by invitation): Clinically the nodules do not appear xanthomatous but rather fibromatous.

DR. S. FELDMAN: The nodules have a distinct yellowish tinge. We stained a frozen section with sudan III, and the specimen is permeated with fat; there are fibrosis and vacuolization, which furnish sufficient evidence of fibroxanthoma. Acrodermatitis chronica atrophicans shows degeneration and finally disappearance of the elastic tissue. The same occurs with the collagen. There is first degeneration and then a decrease.

ALOPECIA AREATA. Presented by DR. M. BERKOVSKY.

A man, aged 23, a clerk, began to lose his scalp hair in May, 1931. The alopecia began as a small circumscribed area on the vertex, which rapidly spread peripherally, so that in from six to eight weeks all the hair except a small patch in the occipital region was gone.

Treatment was instituted the middle of December with a rather spectacular result. The treatment as outlined by Dr. Bengtson consisted of two injections weekly of 1 cc. of solution of anterior pituitary and one injection weekly of 1 cc. of a solution of posterior pituitary. By mouth the patient received 5 grains (0.3 Gm.) of whole pituitary. The hair has fully regrown, is thick and has a good luster.

DISCUSSION

DR. R. BREAKSTONE: I have tried treatment with solution of pituitary in several cases with no results. One cannot always attribute the success of the treatments to pituitary, because in many cases the condition clears up spontaneously.

DR. G. SPINNER: I am trying this treatment in one case with good results.

DR. I. LASHINSKY: This therapy should be employed only in a different type of alopecia, not in alopecia areata and not in the alopecia of syphilis.

DR. M. BERKOVSKY: It is true that hair might have grown spontaneously, or as a result of other forms of therapy, but the result has been so spectacular that I would rather attribute it to pituitary. It is too early to make any claims for this type of treatment, and only after extended experience will it be possible to form an opinion as to its efficacy. Dr. Silver has told me that in his experience with the administration of pituitary, particularly in young women, he has noticed a sudden appearance of superfluous hair on the face and extremities. This is an interesting observation and one worthy of recording.

EXTENSIVE TELANGIECTASIA FOLLOWING ROENTGEN TREATMENT FOR HYPERTRICHOSIS. Presented by DR. HENRY SILVER.

Miss H. T., a brunette, single, has been suffering from mild hypertrichosis of the chin and cheeks. Eight years ago she was referred by a friend to the Tricho Institute for treatment. She was treated there three times a week for one year with x-rays. Two years later the skin of her face showed the results of the treatment employed. The entire chin and the sides of the face extending from both ears, involving mainly the cheeks, the temporal region and the nose, were covered with multiple, densely situated, bright red telangiectasia. The skin was atrophic in spots. The superfluous hair was still present on the chin.

DISCUSSION

DR. H. SILVER: This patient is another victim of quack therapy. It is interesting to note that despite the excessive roentgen radiation she still shows evidence of hypertrichosis.

DR. M. BERKOVSKY: I demonstrated a similar case at the Mount Sinai Hospital in a young woman who had also been treated at the Tricho Institute. She had radiodermatitis not only on the chin but on the chest, probably due to improper shielding against the x-rays.

DR. S. FELDMAN: I have seen many similar unfortunate results in patients treated at the Tricho Institute. The important feature now is the treatment of the

telangiectasia. I advise against the use of the Kromayer lamp, preferring to destroy each blood vessel with a fine needle.

DR. C. LERNER: Electrolysis I believe is the best form of therapy for telangiectasia that exists at the present time. It involves a difficult technic, for one must get into the lumen of each vessel. The use of the Kryo cautery is efficacious but difficult.

DR. A. ROSTENBERG: In my experience the endothermy needle is better than electrolysis.

DR. H. SILVER: Lest we forget, roentgen therapy was the former treatment for hypertrichosis. Older dermatologists still see cases of radiodermatitis that followed their experiments in the early era of roentgen therapy. I agree that the best method of treatment of telangiectasia is electrolysis or endothermy. I should hesitate, though, to employ these methods in telangiectasia following excessive roentgen radiation, as in this case.

LICHEN PLANUS ET ACUMINATUS ATROPHICANS. Presented by DR. SAMUEL FELDMAN.

W. F., 62 years old, noticed an eruption on his body about four months ago, which was accompanied by considerable itching. He presented on the trunk, front and back, and also on the arms, forearms and thighs irregular patches made up of individual lesions. These lesions were papular and nearly the color of normal skin, and each was capped by a horny plug. The latter was gray to almost black. There was some pigmentation about the patches. Scattered between the groups of acuminate lesions were several small oval and annular patches, smooth and violaceous with hardly any scaling. On the scalp the same patches composed of acuminate lesions were present, but the center of each group presented definite atrophy. On the buccal mucosa opposite the last two molars were densely situated, grayish-white, pinhead-sized papules. Annular, violaceous lesions were seen on the penis.

The biopsy specimen taken from the patches of acuminate lesions revealed hyperkeratosis gradually enlarging toward the mouth of the follicle, which was widely dilated with the horny layer dipping into it in the form of a horny plug. There was marked perifollicular round cell infiltration.

Another biopsy specimen taken from an annular lesion revealed a marked increase in the granular layer, with a lifting of the epidermis from the cutis forming a lake, the basal layer being absent in that region. There was a massive round cell infiltration directly below the lake.

Staining with acid-orcein polychrome methylene blue revealed blue-staining elacin.

DISCUSSION

DR. A. ROSTENBERG: This is a most unusual case. There are some typical lichen planus lesions on the wrists and arms and also on the penis and buccal mucosa. There are also some atrophic lichen planus lesions, which is the unusual feature in this case.

DR. S. FELDMAN: Biopsy showed lichen planus, lichen acuminatus and evidence of beginning atrophy in the lesions. I described a similar condition about ten years ago (Lichen Planus et Acuminatus Atrophicans, ARCH. DERMAT. & SYPH. **5**:102 [Jan.] 1922), but the acuminate lesions in that case were not so red.

DERMATITIS HERPETIFORMIS. Presented by DR. THEODORE ROSENTHAL.

M. R., a woman, aged 68, born in the United States, has suffered from an intermittent pruriginous eruption for the past three years. Her previous health had been good.

On examination there were seen numerous grouped and crusted lesions which were distributed on the arms, shoulders, legs, abdomen and flanks. Between these

lesions, which ranged from the size of a pinhead to that of a split pea, were grouped pigmented spots. On the right clavicular region a vesicle was present.

DISCUSSION

DR. C. GREENHOUSE: I cannot agree with the diagnosis of dermatitis herpetiformis. This condition may be vesicular urticaria or neurotic excoriation of the skin. I do not see any real grouping of lesions.

DR. F. DIASIO: I am not inclined to agree with the diagnosis as presented. This patient has a typical neurasthenic facies, and I believe that she has a dermatitis artefacta.

DR. H. FEILER: I am in favor of the diagnosis of artificial dermatitis, especially because of the lack of lesions on the back.

DR. A. ROSTENBERG: The diagnosis of dermatitis herpetiformis was made three years ago, and the patient has been watched since that time. Lesions are present in areas that she could not reach with her fingers. The potassium iodide test proved negative.

DR. M. UMANSKY: I believe that this condition may be dermatitis herpetiformis. The potassium iodide test should be given internally and applied externally; also the blood should be examined for eosinophilia.

DR. H. SILVER: There are few features in the eruption presented by this patient that warrant a diagnosis of dermatitis herpetiformis. In cases of this type underlying metabolic disturbances should be looked for. I believe that this condition might be a senile pruritus.

DR. T. ROSENTHAL: This patient presented all the requirements for the diagnosis of dermatitis herpetiformis; namely, chronicity, grouped lesions, pigmentation and marked itching.

ADENOMA SEBACEUM. Presented by DR. I. M. LASHINSKY.

J. D., a girl, 5 years of age, born in the United States, is well nourished and well developed, behaves like a normal child and answers questions intelligently. According to her mother's statement, the birth of the child was absolutely normal. The patient has had scarlatina, measles and pertussis. One sister is 11 years old and normally developed; another sister died at the age of 3 years from infantile paralysis. The eruption on the child's face, according to the mother's statement, appeared at the end of the first year of life.

On examination the patient presented erythematous papules from the size of a pinhead to that of a split pea covering the sides of the nose and the cheeks in a symmetrical arrangement. Some of these papules appeared as though streaked with ramifying dilated capillaries, giving the appearance of telangiectasia. The lesions were not pruriginous.

The patient also presented discrete papules from the size of a millet seed to that of a split pea, waxy or white, some approaching the color of normal skin, some of them grouped and situated on the abdomen and back in the lumbar region. The lesions on the body, the mother stated, appeared much later than those on the face. A biopsy specimen could not be obtained.

The laboratory findings in the case were as follows: The urine was normal; the Wassermann reaction of the blood was negative, roentgenograms of the skull showed that it was normal, and neurologic examination as well as examination of the retina gave negative results.

The salient features in this case are: (1) the normal mentality of the child, and (2) the lesions on the patient's body, which may, however, be part of the adenoma sebaceum.

DISCUSSION

DR. A. ROSTENBERG: I am inclined to believe that this condition is a nevus. The mentality in patients with nevi is usually good.

DR. T. ROSENTHAL: I had the opportunity of seeing and treating this child at another clinic one year ago. The treatment consisted first of several doses of filtered roentgen rays. This did not change the condition. Then heavy doses of ultraviolet rays, enough to produce marked exfoliation, were given. Even this did not change the picture. Then individual lesions were electrodesiccated. Others were treated with trichloracetic acid. This seemed to remove a good many of the lesions. At that time, the patient had no lesions on the body. My associates and I did not regard the condition as a Pringle nevus, but simply as localized hypertrophy of the sebaceous elements in that region.

DR. F. CROSS: It is my opinion that this condition is the Pringle type of adenoma. These cases are familial, and in most of them the mentality is normal.

DR. I. LASHINSKY: It is known that adenoma sebaceum may occur on the body. It is a question as to whether the lesions there are identical with those on the face.

FIBROSARCOMA. Presented by DR. HENRY SILVER.

Mrs. I. M., aged 35, gave an unimportant past and family history.

On admission to the Mount Sinai clinic, on March 15, 1932, she presented a cherry-sized nodule, situated on the outer aspect of the upper third of the right leg. The lesion was raised, reddish and sharply circumscribed. The surface was smooth, and the skin over it not freely movable. This isolated lesion was firm. It had developed rapidly to the present size within the six months prior to admission. At the first glance the lesion resembled a granuloma telangiectaticum, but because of the hardness of the lesion, the somewhat rapid development and the fleshy color, a malignant process was immediately suspected.

The lesion was excised *in toto*, sectioned, stained with various methods and examined by Dr. Peck. The section showed a mass of tumor tissue which was denuded of epidermis. The tumor was made up of very large, spindle-shaped cells with large oval nuclei. At first glance the cells were hard to differentiate from epithelial elements. It was seen, however, that there were no prickles, and that the cells tended to form nodules which had a sort of concrete arrangement like that seen in nerve tumors. With the van Gieson stain, however, it was seen that the growth was a sarcoma. Between the cells there were many collagen fibers. The epidermis bordering the tumor was acanthotic. The surface of the tumor was infiltrated with many polymorphonuclears, and there were many polymorphonuclears and lymphocytes in the adjacent tissues.

The patient was referred to the roentgenotherapy department and has received 3,200 milligram hours of radium at a distance of 2 cm., filtered with 1 mm. of lead and 5 mm. of platinum.

DISCUSSION

DR. I. LASHINSKY: I had an opportunity to see this patient before she was treated. The lesion appeared clinically like a granuloma pyogenicum. I believe that in all similar cases a malignant condition should be suspected.

DR. H. SILVER: Perhaps this and similar observations will lead us to consider these solitary lesions in young or middle aged women more seriously. A similar case was seen at the Mount Sinai clinic about six months ago. There was general agreement in the diagnosis of granuloma telangiectaticum. Biopsy revealed the malignant character of the lesion.

A CASE FOR DIAGNOSIS (SARCOID?). Presented by DR. I. M. LASHINSKY.

S. F., a housewife, aged 62, born in Russia, presents a solitary lesion on her right buttock. The pruriginous patch appeared about two years ago, and since then there have been periods of amelioration.

On examination the patient presented a quarter-sized, somewhat infiltrated, appreciably raised, coppery red lesion with slight scaling, situated on the right buttock.

Physical examination as well as the laboratory tests gave negative results.

DISCUSSION

DR. I. LASHINSKY: In view of the color, the location and the infiltration of the lesion, I believe it may be a form of tuberculosis of the skin.

DR. C. LERNER: The superficial nature of the lesion inclines me to the opinion that it is sarcoid of Boeck.

DR. H. SILVER: When questioned, the patient admitted that she has had the lesion for many years, but it began to bother her only lately. In view of the unusually long duration and because of the color and type of scale, I should be inclined to the diagnosis of lupus vulgaris.

DR. F. CROSS: Sarcoids are usually clearcut lesions, while lupus vulgaris has satellite lesions about it. The scaling might be due to irritation.

DR. A. ROSTENBERG: The induration and infiltration of this lesion make the diagnosis of sarcoid more likely. If the condition were lupus vulgaris, the lesion would be much softer.

DR. T. ROSENTHAL: On close inspection, the lesion appeared to be composed of several individual papules, closely aggregated. This fact, together with the location of the lesion, inclines me to the diagnosis of lupus vulgaris.

DR. C. LERNER: Lupus vulgaris would develop during childhood. One does not expect lesions of lupus vulgaris to develop suddenly in a woman of 42.

VESICULAR PITYRIASIS ROSEA SIMULATING EPIDERMOPHYTID. Presented by DR. R. BREAKSTONE.

A woman, aged 25, a stenographer, was first seen on April 19, 1932, at which time she presented a grouped papular eruption on both elbows and the backs of both hands. The palms and soles presented vesicular lesions. When the patient was seen one week later, the appearance of the eruption had changed; the papules had become flat, pinkish and scaly. The vesicles on the palms and fingers as well as on the soles had turned scaly. New lesions resembling strongly those of typical pityriasis rosea had appeared on the front of the neck and on the arms.

DISCUSSION

DR. C. GREENHOUSE: The generalized nature of this eruption with lesions on the palms, soles and legs, leads me to the diagnosis of dermatophytid.

DR. M. UMANSKY: These lesions are unusually distributed and sharply defined. There is no mother patch. I believe the condition is a dermatophytid.

CLEVELAND DERMATOLOGICAL SOCIETY

J. R. DRIVER, M.D., *Reporter*

Regular Meeting, April 28, 1932

H. N. COLE, M.D., *Presiding*

LYMPHOGRANULOMA INGUINALE (TREATED WITH ANTIMONY AND POTASSIUM TARTRATE). Presented by DR. H. F. DE WOLF.

W. T., a Negro, aged 30, from the service of Dr. H. N. Cole and Dr. J. R. Driver at Cleveland City Hospital, was presented at the meeting of this society on March 25, 1932, at which time he showed large swellings in the groins with

fistulous openings. A positive diagnosis of lymphogranuloma inguinale was made by the Frei test, and since March 25, 1932, he has received 38 cc. of a 1 per cent solution of antimony and potassium tartrate intravenously. He is shown again today in order to demonstrate the effect of this drug. The bilateral inguinal adenitis has regressed about 75 per cent under treatment. The penile lesion has healed.

DISCUSSION

DR. J. VAN CLEVE: This is one of the few cases of lymphogranuloma inguinale in which my associates and I have seen a primary lesion. Since some of the South American investigators have been using antimony and potassium tartrate, we used it on this man with good results. The multiple sinuses and indurated borders of the deep iliac glands subsided remarkably under this therapy.

DR. H. N. COLE: American dermatologists have been told that antimony and potassium tartrate loses its value if sterilized by heat; so the preparation used by my associates and me is always sterilized by Chamberland filters. Two medical missionaries who were making rounds in our service the other day surprised me by saying that when this drug is used in large amounts in Egypt for the treatment of infections due to Leishmania and Bilharzia it is always sterilized by heat, and the physicians feel that their results are very good. We should be glad to know if any one present can give us further information along this line.

GRANULOMA INGUINALE. Presented by DR. H. F. DE WOLF.

W. Y., a Negro, aged 26, from the service of Dr. H. N. Cole and Dr. J. R. Driver at Cleveland City Hospital, was admitted on April 14, 1932. He had had a penile lesion for at least two years. It had continued to progress in spite of an extended course of antisyphilitic treatment received prior to admission. Circumcision was done about a year ago in Buffalo, but the wound did not heal properly.

Examination gave essentially negative results except in the genitalia. There was marked deformity of the penis. The glans had been largely destroyed. The shaft was shortened and sclerotic. There was beefy red ulceration of the remains of the glans and at the penoscrotal angle. The Wassermann and Kline tests of the blood were 4 plus. The spinal fluid was normal. Smears were positive for Donovan bodies.

DISCUSSION

DR. J. E. RAUSCHKOLB: This young Negro two years prior to admission to the hospital had had a penile lesion, the exact nature of which was not known. He was evidently circumcised about a year ago, but the wound did not heal; instead the lesion spread by contiguity to surrounding tissue, finally involving the entire penis down to the scrotum. Serologic examination showed a positive Wassermann reaction; the Frei test was negative, which definitely rules out the diagnosis of lymphogranuloma inguinale. As I understand the case, the patient had antisyphilitic therapy, which definitely rules out gumma and late secondary types of syphilis. Two possibilities remain: that of granuloma inguinale and that of proliferating chancroid infection. Smears showed typical Donovan bodies. On the one slide that I have seen the Donovan bodies are arranged in true rosette formation. Under treatment with antimony and potassium tartrate, the activity of the lesion is rapidly diminishing. I think that the condition is granuloma inguinale.

DR. H. F. DE WOLF: I think that it is interesting to see two patients together, one with lymphogranuloma inguinale and one with granuloma inguinale. I do not believe anybody here would ever confuse the two diseases, though it is true sometimes that when one speaks of lymphogranuloma inguinale one thinks of granuloma inguinale. In the one condition the lymph glands are involved, and in the other, the skin. This man has no involvement of the glands of the groins, even after two years. The disease is limited to the genitalia.

LICHEN SIMPLEX CHRONICUS. Presented by DR. EDWARD I. STEINBERG.

J. B., a white girl, aged 17, has had an itchy eruption on the sides of the neck, the extensor surfaces of both elbows and the outer surfaces of the thighs for about one year. There had never been any previous skin disease and she had always enjoyed good health. She stated that her present trouble was preceded by a boil on the back of the neck. The eruption consists of dark brownish, pigmented areas with lichenified, shiny papules resembling those of lichen planus. There is a roughened, grater-like feel to the areas, with accentuation of the normal skin lines. There has been slight improvement with roentgen therapy. The urine and blood have been normal.

DISCUSSION

DR. C. L. BASKIN: This case furnishes a good example of lichen simplex chronicus. The old textbooks confused this condition with lichen planus. It resembles somewhat the appearance of artificial pocketbook leather. It is not hard to distinguish from lichen planus. The main problem is the treatment. I see a few of these cases with lesions in symmetrical localization. I think that this case is similar to one of lichen planus ocreaformis shown before this society at the meeting in February, 1932, although the lesions are not symmetrical.

DR. H. N. COLE: I was a little suspicious about the localization of the eruption at the base of the hair. I looked closely and found pediculi capitis. I believe the entire eruption to be secondary to this condition.

DR. EDWARD I. STEINBERG: Pediculi capitis is a recent development. The patient gives a history of the eruption having lasted eighteen months, most of the time with severe itching. I wonder if the history of eighteen months' duration would be consistent with a diagnosis of pediculi capitis.

DR. H. N. COLE: If a person has chronic pediculi capitis there is no question but that the persistent scratching could in time explain the entire process. The lesions on the abdomen are a secondary process.

LUPUS ERYTHEMATOSUS. Presented by DR. J. EDGAR FISHER.

A man, aged 42, was first seen two years before presentation with an eruption of six months' duration involving the face and the lobes of the ears. Examination showed badly infected teeth, which were extracted recently without influence on the eruption. A course of twelve injections of a gold preparation improved the condition temporarily two years ago. At present the eruption is limited to the sides of the face and consists of slightly raised bluish-red patches.

LUPUS ERYTHEMATOSUS (DISCOID). Presented by DR. J. V. AMBLER.

M. C., a white man, aged 32, from the service of Dr. H. N. Cole and Dr. J. R. Driver at Lakeside Hospital, presented himself at the Lakeside dispensary on April 28, 1932, for treatment of a chronic localized eruption on the nose. The lesion started two years ago on the bridge of the nose and has gradually spread to its present dimensions. There had been no therapy except applications of petrolatum prior to the patient's first visit. The condition was somewhat pruritic; otherwise there were no subjective symptoms. His general health has always been excellent except for a gastric ulcer four years ago which was treated by operation.

Examination showed a dull red triangular lesion across the bridge of the nose with the lateral angles extending under the eyes on each side. The edges were sharply defined, slightly raised and somewhat indurated. The lesion was scaly and showed many keratosic follicular plugs. Otherwise physical examination gave normal results.

A CASE FOR DIAGNOSIS. Presented by DR. H. F. DE WOLF.

R. F., a white woman, aged 23, from the service of Dr. H. N. Cole and Dr. J. R. Driver at Cleveland City Hospital, was shown before this society in

November, 1930, with an eruption confined to the face. Various diagnoses were suggested. In December, 1930, injections of a gold compound were started, and at the present time she has received thirty-three doses. The lesions clear up under treatment, but recur as soon as it is discontinued.

At present there is a papular eruption on the sides of the face, on the forehead and under the chin. The lesions are bright red. There is considerable erythema surrounding some of them.

DISCUSSION

DR. J. R. DRIVER: The first case, to my mind, presents a good example of the acute type of lupus erythematosus with more or less edematous lesions. There is a history of a former attack, but about two years ago this was cleared up with injections of a gold preparation. I think that the condition would respond to gold preparations again, but the injections should be continued for a long time after the lesions have cleared up. The case presented by Dr. Ambler is an example of the chronic discoid type. In this case also, I think gold therapy would be indicated. If the condition does not respond to ten or twelve injections, I should use carbon dioxide snow. In the case presented for diagnosis, there might be a question as to whether the condition is lupus erythematosus. However, the other two possible diagnoses, to my mind, would be sarcoid and granuloma annulare. A biopsy specimen taken from one of the lesions did not show any pathologic characteristics of either sarcoid or granuloma annulare. For that reason, particularly, I should be inclined to call this a case of lupus erythematosus, although the eruption did not respond entirely to thirty-three injections of a gold compound. I suggest the use of carbon dioxide snow.

DR. R. E. BARNEY: I saw the last patient about two years ago and had her under observation for some time. I confess that I could not arrive at a definite diagnosis, but I believe that, with the history of alternating periods of quiescence and recurrences, the condition probably belongs to the erythema multiforme group. Some of the lesions can be blanched on pressure. The condition is more characteristic of erythema multiforme at this time than it was formerly. I doubt whether treatment with carbon dioxide snow would be satisfactory, for I question whether the lesions would disappear without scarring. If carbon dioxide snow is used there will be scarring. I was under the impression that the condition had responded to therapy with gold compounds. I think it is erythema multiforme.

DR. H. F. DE WOLF: In regard to the last case presented, at one time I considered the possibility of a diagnosis of erythema multiforme, and treatment with gold preparations was, therefore, discontinued and the administration of salicylates was begun. The patient became discouraged, however, and gold therapy was resumed. Each time gold preparations were used the condition improved, but as she had been given thirty-three injections, it was thought that this treatment should be discontinued. The patient is cooperative and comes regularly for treatment, and there has been ample opportunity to study her. Two biopsy specimens have been taken. Last week she was given an injection of a nonspecific milk preparation, and the lesions have improved considerably. I believe it would be well to try treatment with another specific protein to see whether it would have any effect.

BISMUTH STOMATITIS AND NEPHROSIS. Presented by DR. H. F. DE WOLF.

M. M., a colored woman, aged 28, from the service of Dr. H. N. Cole and Dr. J. R. Driver at Cleveland City Hospital, was admitted on April 25, 1932. She was first seen on Oct. 27, 1931, with secondary syphilis (papular eruption and iritis). She was hospitalized for a short time and responded well to treatment with arsphenamine. After leaving the hospital she attended the outpatient clinic rather irregularly. Because she did not tolerate arsenicals well (nitritoid reactions), a course of bismuth salicylate was started on Feb. 19, 1932. Between that date and April 8, 1932, she received six injections of the drug, three of 0.13 Gm. and three of 0.26 Gm. On April 15, she complained of a sore mouth and was given an

injection of neoarsphenamine. She was also given a potassium chlorate mouth wash. In spite of this treatment, salivation and soreness of the gums and mouth became worse and she was admitted to the hospital.

She was unable to lie down because she could not breathe comfortably. Examination gave essentially negative results except for the mouth and throat. There were marked salivation, a foul odor and a thickly coated tongue. The gums showed a definite blue line with only moderate inflammatory changes. The pharynx was moderately swollen. The blood pressure was 80 systolic and 50 diastolic.

Smears from the gums showed many Vincent's organisms. The red blood cells numbered 4,400,000, and the white cells, 14,000; the hemoglobin was 80 per cent. The urine showed a heavy albumin content, an occasional granular cast and an occasional leukocyte, but no red blood cells.

DISCUSSION

DR. E. C. LOOMIS: I think this is a typical case of stomatitis due to bismuth. I saw the patient two days ago, and since then the condition has become worse. Oral hygiene was poor, the patient being unable to take water, but there was practically no necrosis at the time I first saw her. She has been given six injections of bismuth over a period of two months, three injections being of what is considered a half size dose (0.13 Gm. of bismuth salicylate). In the last several years my associates and I have seen four or five cases showing considerable reaction to a few or several doses of bismuth.

DR. C. G. LA ROCCO: I am interested in the black spots on the tongue. Were they present before the administration of bismuth, or are they a new development?

DR. C. L. CUMMER: I also am interested in the black spots. There was a patient at Charity Hospital who presented these black areas, and who claimed they were not present before the attack of bismuth stomatitis. We have seen quite a few cases from the use of bismocymol.

DR. H. N. COLE: I notice that three injections of 0.13 Gm. and three of 0.26 Gm. were given, and it seems to me that these are large doses for a woman of the size of the patient. For a woman, 0.13 Gm. would be a good dose, as there is 65 per cent metallic bismuth present. Especially is this true with bismuth salicylate. There is a man at Lakeside Hospital who has received three injections of bismuth salicylate, each dose containing 0.065 Gm. of metallic bismuth; it is now five weeks since the last injection, and there is still a daily urinary excretion of over 1 mg. of bismuth per day. In answer to Dr. La Rocco and Dr. Cummer, the black spots are characteristic of bismuth stomatitis. Bismocymol gives a high excretion in twenty-four hours, but the excretion drops rapidly in two or three days. However, the excretion curve is around 1 mg., and I do not believe it is necessary to give the drug twice a week, as the manufacturers suggest.

DR. R. E. BARNEY: I thought that one might be able to explain the black spots by the rich blood supply around the papillae.

DR. J. VAN CLEVE: I can subscribe to the fact that the patient did not have these black spots before the development of the bismuth stomatitis.

DR. H. F. DE WOLF: I should like to have therapeutic suggestions. This is the second case of bismuth stomatitis that I have seen. We had one case last year in which there was rather severe necrosis of the mucous membrane. I wonder if sodium thiosulphate might be indicated.

DR. H. N. COLE: Sodium thiosulphate would not do any harm, and it might be a good thing to try.

ACNE CONGLOBATA. Presented by DR. J. V. AMBLER.

J. M., a man, aged 25, a foreign-born Greek, from the service of Dr. H. N Cole and Dr. J. R. Driver at Lakeside Hospital, came to the dispensary com-

plaining of numerous boils over the entire body during the last nine or ten years. He had had various types of therapy, including from three to five roentgen treatments for acne of the face four years previously, without benefit.

On examination, over the entire body, down to the middle of the thighs, there were numerous pitting scars of various sizes. In each pit were one or more giant comedones. Beneath some of the scars, particularly on the back, there were hard, cystlike subcutaneous tumors which on incision yielded a cheesy, sebaceous material. Scattered here and there were furuncles in various stages of inflammation. The face showed old acne scars but no active lesions. Cultures from furuncles yielded Staphylococcus aureus. A biopsy specimen was taken from one of the older lesions, but proved unsatisfactory, showing only a mild chronic inflammation.

DISCUSSION

DR. R. E. BARNEY: I think that this is the most unusual case that has been presented today, and, as the members of the society know, the condition was recently pointed out by Dr. Michelson of Minneapolis. I think this is a typical case of acne conglobata, presenting the active infiltrating lesions, comedone and scar formation. Clinically, the so-called bridge scars are shown in this case, and also the comedones. In the literature attention has been called to the relationship of acne conglobata to dermatitis papillaris capillitii involving the back of the neck and also to perifolliculitis capitis abscendens et suffodiens, which has been described as disseminating cellulitis of the scalp. It is peculiar that whenever a condition of this type is described in the literature one begins to see a good many cases of it. I wonder if it has been seen before and has been overlooked. This is the first case that has been presented before this society, and I prophesy that in the next two or three years a great many cases will be seen.

DR. H. N. COLE: The work of Ramel at Lausanne in connection with the relationship of tuberculosis to chronic pustular acne is rather interesting and most stimulating. Dr. Michelson, in his recent paper on acne conglobata (Michelson, H. E., and Allen, P. K.: Acne Conglobata, ARCH. DERMAT & SYPH. **23**:49 [Jan.] 1931), expressed the belief that there is no relationship between the disease and tuberculosis. Ramel feels otherwise. So far as this patient is concerned, my associates and I have thus far been unable to find any evidence of tuberculosis.

DR. H. G. MISKJIAN: I should like to call attention to the frequency of deep indurated lesions of copper-colored flat nodules embedded in the skin resembling the apple jelly tubercle of lupus vulgaris. It would be interesting to see by means of biopsy whether these lesions would not help to confirm the tuberculous nature of acne conglobata. At the present time I have under observation a girl who presents numerous small tubercular lesions, and I know it would help a great deal to make a biopsy. The aspect of the tubercles scattered here and there and sometimes grouped together is very suggestive.

A CASE FOR DIAGNOSIS. Presented by DR. H. F. DE WOLF.

P. B., a white girl, aged 12, from the outpatient department of Cleveland City Hospital, was admitted on April 28, 1932. The patient has had an eruption of the scalp for the past five months. In spite of treatment with an ointment the condition has continued to become worse. Examination showed an extensive white scaly process covering most of the scalp. The hairs seemed to be normal. There was a musty odor. The umbilicus was involved by a scaly dermatitis.

DISCUSSION

DR. H. G. MISKJIAN: The condition is characterized by enormous thick scales, and associated with it are dermatitis-like lesions around the umbilicus. Mistakes that have been made attract attention to this feature. The girl says that she is 12 years old, was born in Cleveland, has always lived in this country, has no brothers or sisters and has never had an eruption like this before; all this speaks

definitely against favus. Examination shows no signs of favus. Under these circumstances, the diagnosis of favus is not likely to be correct. Another possibility is that of Alibert's psoriasis; this, however, is an erythematous disease, and I have not been able to find any patches of erythema that would be typical of this condition. Moreover, there is no trace of exudation and crusting, and for this reason also I do not believe the condition is Alibert's psoriasis. So one returns to the consideration of the possibility of favus. I think the only thing that can be said at the present time is that the case should be well investigated. I do not offer this suggestion of favus as a diagnosis, but only as a hypothesis on which to carry out further investigations.

DR. R. E. BARNEY: In view of previous experience, I suggest that the scales be cleared up as much as possible and that the case be presented at a subsequent meeting. I think that one may be better able to make a diagnosis after the scales are off.

DR. H. F. DE WOLF: There is a musty odor to this scaling, which is characteristic of favus. No organisms have been found. I shall try to carry out Dr. Barney's suggestions by the time of the next meeting.

Directory of Dermatologic Societies *

FOREIGN

British Association of Dermatology and Syphilology (Canadian Branch)

J. Frederick Burgess, President, Drummond Medical Bldg., Montreal.
B. Usher, Secretary-Treasurer, Medical Arts Bldg., Sherbrooke St., W., Montreal.

Royal Society of Medicine, Section of Dermatology

A. M. H. Gray, President, 30 New Cavendish St., W. 1, London.
H. Thompson Barron, Secretary, 53 Queen Anne St., W. 1, London.

NATIONAL DERMATOLOGIC SOCIETIES

American Medical Association, Scientific Assembly, Section on Dermatology and Syphilology

Francis Eugene Senear, Chairman, 55 E. Washington St., Chicago.
Harry R. Foerster, Secretary, 208 E. Wisconsin Ave., Milwaukee.
Place: Milwaukee. Time: June 12-16, 1933.

American Dermatological Association

Fred Wise, President, 200 W. 59th St., New York.
W. H. Guy, Secretary, 500 Penn Ave., Pittsburgh.
Place: Chicago. Time: 1933.

SECTIONAL DERMATOLOGIC SOCIETIES

Baltimore-Washington Dermatological Society

Harry M. Robinson, President, 106 E. Chase St., Baltimore.
M. H. Goodman, Secretary, 401 Medical Arts Bldg., Baltimore.

Central States Dermatological Association

Emmett C. Troxell, President, 74 W. Adams St., Detroit.
William G. Saunders, Secretary, 9203 Grand River Ave., Detroit.

Iowa and Western Illinois Dermatological Association

J. C. Kessler, President, University Hospital, Iowa City, Iowa.
Robert E. Jameson, Secretary, 201 West Second St., Davenport, Iowa.

New England Dermatological Society

Arthur M. Greenwood, President, 416 Marlboro St., Boston.
William P. Boardman, Secretary, 388 Marlboro St., Boston.

Southern Medical Association, Section on Dermatology

Emmet R. Hall, Chairman, 1001 Exchange Bldg., Memphis, Tenn.
Dudley C. Smith, Secretary, University, Va.

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* Secretaries of dermatologic societies are requested to furnish the information necessary for the editor to make this list complete and to keep it up to date.

STATE DERMATOLOGIC SOCIETIES

Florida Society of Dermatology and Syphilology

Chairman for each meeting is elected from city in which meeting is held.
Frank Wilson, Secretary, 310 Greenleaf & Crosby Bldg., Jacksonville, Fla.
Place: Jacksonville, Tampa, Miami and place of meeting of state medical society.
Time: Quarterly.

Louisiana Dermatological Society

J. A. Devron, President, 150 Baronne St., New Orleans.
M. T. Van Studdiford, Secretary-Treasurer, 912 Pere Marquette Bldg., New Orleans.

Medical Society of the State of New York, Section on Dermatology and Syphilology

Paul E. Bechet, Chairman, 55 Park Ave., New York.
Herbert H. Baukus, Secretary, 925 Delaware Ave., Buffalo.

Medical Society of the State of Pennsylvania Section on Dermatology

Stanley Crawford, President, 200, 9th St., Pittsburgh.
Robert L. Gilman, Secretary, 1930 Chestnut St., Philadelphia.

Michigan State Medical Society, Section on Dermatology and Syphilology

Cyril K. Valade, Chairman, 1604 Eaton Tower, Detroit.
George H. Belote, Secretary, University Hospital, Ann Arbor.

Minnesota Dermatological Society

H. N. Klein, President, 350 St. Peter St., St. Paul.
D. D. Turnacliff, Secretary, 407 Medical Arts Bldg., Minneapolis.

Oklahoma Dermatological Association

William E. Eastland, President, 117 N. Broadway, Oklahoma City.
C. L. Brundage, Secretary, 616 Medical Arts Bldg., Oklahoma City.

Texas Dermatological Society

T. J. Calhoun, President, 1719 Pacific Ave., Dallas.
Everett R. Seale, Secretary, 1215 Walker Ave., Houston.

LOCAL DERMATOLOGIC SOCIETIES

Atlanta Dermatological Society

Francis G. Jones, President, 384 Peachtree St., Atlanta, Ga.
Charles A. Wilkins, Secretary, Medical Arts Bldg., Atlanta, Ga.

Bronx Dermatological Society

Adolph Rostenberg, Chairman, 152 E. 179th St., New York.
Theodore Rosenthal, Secretary-Treasurer, 115 W. 86th St., New York.

Brooklyn Dermatological Society

B. B. Berkowitz, President, 225 Eastern Parkway, Brooklyn.
A. M. Persky, Secretary, 1750 Ocean Pkwy., Brooklyn.

Buffalo Dermatological Society

Herbert H. Bauckus, Presidennt, 925 Delaware Ave., Buffalo.
William F. Hoover, Secretary, 333 Linwood Ave., Buffalo.

Chicago Dermatological Society

Michael Ebert, President, 25 E. Washington St., Chicago.
E. A. Oliver, Secretary, 55 E. Washington St., Chicago.

Cincinnati Dermatological Society

Ralph R. DuCasse, President, Carew Tower, Cincinnati.
Raymond G. Senour, Secretary-Treasurer, 19 W. 7th St., Cincinnati.

Cleveland Dermatological Society

E. W. Netherton, President, Cleveland Clinic, Euclid Ave. and E. 93d St., Cleveland.
H. G. Miskjian, Secretary, Rose Bldg., Cleveland.

Detroit Dermatological Society

Emmett C. Troxell, President, 74 W. Adams Ave., Detroit.
William G. Saunders, Secretary-Treasurer, 9203 Grand River Ave., Detroit.

Los Angeles Dermatological Society

Samuel Ayres, Jr., Chairman, 2007 Wilshire Blvd., Los Angeles.
Louis F. X. Wilhelm, Secretary, 1401 South Hope St., Los Angeles.

Manhattan Dermatologic Society

Fred Wise, Chairman, 200 West Fifty-Ninth St., New York.
Mihran B. Parounagian, Secretary, 126 E. 39th St., New York.

Montreal Dermatological Society

J. F. Burgess, President, Drummond Medical Bldg., Montreal, Canada.
B. Usher, Secretary-Treasurer, Medical Arts Bldg., Sherbrooke St., W., Montreal, Canada.

New York Academy of Medicine, Section of Dermatology and Syphilis

A. Benson Cannon, Chairman, 371 Park Ave., New York.
Louis Chargin, Secretary, 1 W. 85th St., New York.

New York Dermatological Society

George M. MacKee, President, 200 W. 59th St., New York.
Edward R. Maloney, Secretary, 853 7th Ave., New York.

Omaha Dermatological Society

H. C. Sumney, Chairman, 1011 W. O. W. Bldg., Omaha.
Donald J. Wilson, Secretary, 1216 Medical Arts Bldg., Omaha.

Philadelphia Dermatological Society

Frederick D. Weidman, Chairman, 1930 Chestnut St., Philadelphia.
Robert L. Gilman, Secretary, 1930 Chestnut St., Philadelphia.

Pittsburgh Dermatological Society

Claude B. Norris, Chairman, 244 Lincoln Ave., Youngstown, Ohio.
Frederick Amshel, Secretary, 3401 5th Ave., Pittsburgh.

St. Louis Dermatological Society

Richard S. Weiss, President, 3720 Washington Blvd., St. Louis.
M. F. Engman, Jr., Secretary-Treasurer, 3720 Washington Blvd., St. Louis.

San Francisco Dermatological Society

Charles Schoff, President, 1127, 11th St., Sacramento, Calif.
John M. Graves, Secretary, 909 Hyde St., San Francisco.

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